

73.

43

Deposited by the BOSTON ATHENÆUM
IN THE LIBRARY OF THE
Boston Medical Library Association,
BY AUTHORITY OF THE TRUSTEES.

Date *Oct. 1896* *W. C. Lare*
Librarian.

*From the
Bremfield Fund.*

Received July 18, 1881.

EXTRACT FROM THE ELEVENTH RULE RELATING TO TAKING
BOOKS FROM THE ATHENÆUM LIBRARY.

“If any book shall be lost or injured, or if any
notes, comments, or other matter shall be written
therein, the person to whom it stands charged shall
replace it by a new volume or set.”

BOSTON
MEDICAL LIBRARY
8 THE FENWAY

10
200
6.19.75
9.10.75

80

ON

RHEUMATISM,

GOUT AND NEURALGIA,

AS AFFECTING THE

HEAD AND EAR.

BY THE SAME AUTHOR:

ON THE

TREATMENT OF DEAFNESS

CONNECTED WITH

ENLARGEMENT OF THE TONSILS

AND OTHER DISEASES OF THE THROAT,

AND ON THE CONSEQUENCES ARISING FROM

THE REMOVAL OF THOSE GLANDS.

RHEUMATISM,
GOUT AND NEURALGIA,
AS AFFECTING THE
HEAD AND EAR:

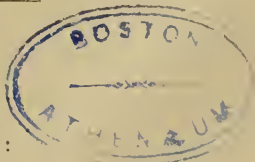
WITH
REMARKS ON SOME FORMS OF HEADACHE,
IN CONNEXION WITH DEAFNESS.

BY
WILLIAM HARVEY,
SURGEON TO THE ROYAL DISPENSARY FOR THE DISEASES OF THE EAR,
FELLOW OF THE ROYAL MEDICAL AND CHIRURGICAL AND
MEDICAL SOCIETIES OF LONDON,
CORRESPONDING MEMBER OF THE ROYAL ACADEMY OF SURGERY AT MADRID,
ETC. ETC.

"Where we cannot invent, we may at least improve; we may give somewhat of novelty to that which was old; and currency to that which was recondite."—COLTON.

LONDON:
HENRY RENSHAW, 356, STRAND.

M DCCCLII.



29 10 239

1592

114988

PREFACE.

THE treatment of the Diseases of the Ear, for so many years left solely in the hands of empirics, and conducted chiefly on mechanical and unscientific principles, having passed to the management of those who, by their professional education and their experience, are enabled to seek for and discover their causes, so long hid in obscurity, has assumed an importance, and attained a utility, that had been previously almost despaired of. Surgery, and surgical appliances alone, can never suffice to cure all the diseases to which any organ of the complicated human frame is liable. Of late, however, where operative surgery has failed, *medical* surgery has quietly and unostentatiously accomplished a signal triumph. In a very large number of cases of deafness, it is found that the structure of the ear itself is sound and uninjured; but that its functions are impaired from causes more or less

remote from the organ itself, and in many instances from some affection of the general health. Thus the pathology of the organ of hearing adds another important item to the class of local diseases of constitutional origin, which, so long as they are regarded as local diseases only, usually baffle the skill of the surgeon, however well devised, and even useful, to a certain extent, his treatment may have proved. So long as the cause of the infirmity remains undiscovered, its relief must obviously be partial, or only temporary.

Among the causes and complications of deafness, none are more common than gout, and rheumatism, and those disturbances of the nervous system which issue in local pain without any palpable change of structure. And the Author of the following pages is not unwilling to confess, that, greatly to his surprise, he has found that many cases of deafness will recover, as it were, spontaneously, when an appropriate treatment of the existing complication, (as it has appeared to be, although it is in reality the constitutional cause), has been systematically adopted and perseveringly followed out.

Not that it is intended to convey the idea that functional lesions only are amenable to constitutional treatment, for there are cases of actual

disease in the external meatus, in the tympanum, and in certain parts of the Eustachian tube, which will readily yield to medical treatment, and often even the entire removal of the deafness they had occasioned may be effected.

The Author's design in the present treatise is, to trace the relations existing between the ear and its appendages, and those gouty, rheumatic, and neuralgic disorders of the parts about the head and face, which often complicate, sometimes cause, and too often protract indefinitely, that most afflictive condition—partial or total deafness. His object is rather to draw the attention of the profession to what are already acknowledged facts; and, for practical purposes, to present those facts clearly before the mind, than to advance novel views or theories. He will be well rewarded for publishing the results of his experience, if, in the words of Sir W. Temple, “though he may not have been able to inform men more than they know, he may yet have given them occasion to consider more than they do.”

2, *Soho Square*,
July 7th, 1852.

CONTENTS.

	PAGE
PREFACE	V

SECTION THE FIRST.

ON RHEUMATISM GENERALLY	1
RHEUMATISM OF THE EAR AND ITS APPENDAGES	9
Occurrence of the Disease	12
Symptoms of Rheumatic Otitis	13—16
Consequences of Mistreatment	14
Nervous Otalgia	18
Diagnosis between Nervous Otalgia and Rheumatic Otitis	18
Tinnitus Aurium	21
Treatment of Rheumatism of the Ear	24
Use of Colchicum	25
— Antiphlogistics, etc.	25
Necessity for varying the Prescriptions	26
Mrs. M.'s Case	28
The Rev. Mr. —'s Case	28
Dr. Hooker on the Connexion of Antecedent Constitutional Disease with apparently Local Disorder	29
Abnormal Acuteness of Hearing	33
The Schoolmaster's Case	34
Case of Intermittent Amaurosis, related by Dr. John Reid	35

	PAGE
NEURALGIA OF THE FACE	36
Diagnosis between this Neuralgia and Rheumatism of the	
Ear	37
Headaches from Tic-Douloureux, etc., curable by the local	
application of <i>Liquor Ammoniaë</i>	38
CHRONIC HEADACHE	39
Causes and Symptoms	39
Diagnosis from Rheumatic Otitis	40
Partial Paralysis of the Face	41
Mr. Shaw's Case of Cynanche Parotidea, with Delirium,	
etc.	42
Miss B.'s Case of Rheumatic Paralysis of the Face, etc. .	43
Seat of Paralysis	43
Rheumatic Paralysis	44
Diagnosis between Rheumatic and partial Paralysis from	
other causes	44
Dr. G. Bird on Paralysis of the Portio Dura	44
Résumé of the Symptoms of Rheumatic Otitis	45
Mr. G.'s Case	47
Mrs. W.'s Case	50
Mr. F.'s Case, published by Mr. Wilde	52
Remarks on this Case	60
Mrs. U.'s Case	62
The Disease extending to the Eustachian Tube	62
Remarks on these Cases	64
Treatment of Acute Rheumatic Otitis	65
Case of Mr. B., the Wine-cooper	67
Extension of the Disease to the Periosteum	69
EXTENSION OF THE DISEASE TO THE BONES OF THE EAR	
AND TO THE MASTOID PROCESS	70
Symptoms and Progress	70
Occurrence of Caries	71

Dr. Abercrombie on Inflammation of the Meninges, the result of Caries of the Ear	71
Diagnosis of Rheumatic Caries of the Ear	73
Scrofula, Rheumatism, and Gout as causative of Caries of the Ear	74
Treatment of Rheumatic Caries	75
Local Treatment	78
----- by Incision over the Mastoid Process	79
Dr. Griffin's Cases of Otitis	80
Local application of Colchicum	81
Use of the Bichloride of Mercury	82
Dr. Holland on the Bichloride of Mercury	82
Mr. B.'s Case	83
Tinnitus Aurium, consecutive to Influenza	85
Master B.'s Case	88
Case by Dr. Abercrombie	90
After-treatment of Rheumatic Caries	91
Suppuration of the internal Ear	94
George D.'s Case	95
Dr. Russell's Case	96
The employment of Issues and other counter-agents	101
 MUSCULAR RHEUMATISM OF THE HEAD	110
Symptoms	111
Causes	113
The Rheumatism confined to one muscle only	113
Case of Rheumatism of the Muscles of the Eye	114
Morgagni and Chomel's Cases of Rheumatism of the Tongue	115
Rheumatism of the Muscles of the Pharynx	115
Dr. James Bird's Case of Rheumatism of Scalp and Nucha, extending to the Brain	115
Rheumatism of the Eye	119
Views of Dr. Mackenzie, Mr. Lawrence, and Dr. Jacob	120

	PAGE
Mr. Lawrence's Case of Rheumatic Sclerotitis	123
Mr. Canton's Diagnostic Sign of Rheumatic Sclerotitis .	126
PERIOSTEAL HEADACHE AND PERIOSTITIS	127
Symptoms	128
Causes	129
Case of	130
Treatment	132
Sir Ph. Crampton on Periostitis	133
Dr. Goolden on Periosteal Disease, affecting the Dura	
Mater	133
Symptoms	135
The occurrence of the Disease owing to the morbid in-	
fluence of Mercury on the System	137
Its connexion with Gout and Rheumatism	139
Treatment of the Periosteal Disease	142
Use of the Iodide of Potassium in small doses	143
Treatment of the Rheumatic or Gouty variety	146
Use of Guaiacum	147
——— Quinine, and other Tonics	148

SECTION THE SECOND.

ARTHRITIC AFFECTIONS OF THE HEAD AND EAR	151
The connexion between Gout and Rheumatism	151
The Blood origin of Rheumatism and Gout	152
Views of the Older Writers	153
——— of Sydenham and Haller	154
The Discoveries by Dr. Garrod and Dr. Bence Jones . .	155
Seat of Rheumatism	156
Dr. Todd on the Rheumatic Diathesis	157
Secretion of Uric Acid in the Gouty Diathesis	164
The exciting Cause of Gout	164
Gouty Affections of the Eye	166
Great prevalence of the Gouty Diathesis	167

CONTENTS.

xiii

	PAGE
Opinions of Dr. Gairdner and Sir B. C. Brodie	167
Causes of the Predisposition to Gout	169
Retrocedent or Misplaced Gout	169
Metastasis	171
Latent Gout	173
Dr. Graves on Latent Gout	173
Singular Cases of Hereditary Gout	174
Formation of Tophi, or Chalk Stones	176
Composition of Tophi	177
Effusion of a White Liquid in Gout	178
ARTHRITIC HEADACHE	182
Difficulty of Diagnosis	182
Dr. Gairdner on Metastasis of Gout to the Head	183
Dr. Graves on Gouty Affections of the Brain	183
Dr. Holland on Intermittent Headache	184
The liability to Arthritic Headache, etc.	185
Symptoms of the Disease	186
John B.'s Case	188
Mr. C.'s Case	190
The Discharge from the Meatus, containing the earthy con- cretions of Gout	192
Case of Miss ———, by Dr. Todd	192
———— a lady, by Dr. Graves	194
Treatment of Arthritic Head Affections	194
Employment of Colchicum	195
Regulations for its use	196
Dr. Holland on the use of Colchicum	198
Cases in which Colchicum is most applicable	203
ARTHRITIC OTITIS	205
Seat of Arthritic Otitis	205
Symptoms and progress	206
Arthritic Inflammation of the Middle Ear	208
Abatement of the symptoms on the appearance of Gout elsewhere	209

	PAGE
Dr. Gairdner on the anomalous symptoms of Gout . . .	209
Case by Dr. Graves	212
Mr. ———'s Case	213
Causes of Gouty Inflammation of the Ear	217
Prognosis	218
General treatment	219
Local remedies	221
Case by Sunter	222
Dr. Graves' Case of Gout in the Stomach	223
Case of Gout in the Lobe of the Ear, by Mr. Daly . . .	223
Case of Fatty Enlargement of the Ears	224
Chronic Gouty Otitis	225
Symptoms and Termination	225
Treatment	226
Injurious consequences of Stimulating Nostra	227
Case of Metastatic Gout, from the Stomach to the Eye and Ear	227
Treatment by Colchicum	228
Case of an old Military Officer	230
Gouty Otorrhea	230
Danger of Checking it	231
Dr. Holland on the Danger of Suppressing Old Chronic Discharges	232

SECTION THE THIRD.

Connexion between Gout, Rheumatism, and Neuralgia .	240
Rheumatism frequently the cause of Tic-Douloureux .	241
Difficulty in tracing the proximate causes of Neuralgia .	242
Its Causes and Origin	243
Tic-Douloureux dependent on Indigestion	244
Constitutional Origin of the Disease	245
Its Hereditary Nature	246
Its connexion with Rheumatism	247

	PAGE
Opinion of Siebold, Dubois, and Larrey	247
Malaria as causative of Tic-Douloureux	248
Mechanical Lesions of Nerves, &c.	248
Usual Seat of the Disease	249
Symptoms of the Disease	249, 254
Bellinghieri on the Fifth Pair, as Vital Nerves	251
Diagnosis of Tic-Douloureux	255
————— from Neuritis	255
————— from General Rheumatism	257
Treatment of Tic-Douloureux	257
Mr. Pearson's plan, by Counteraction	260
Use of Colchicum externally	262
Neuralgia of other Nerves	262
 RHEUMATIC NEURALGIA	 263
Symptoms	263
Diagnosis	264
Dr. Graves on Rheumatic Neuralgia	265
————— on Arthritic Neuralgia	266
Rheumatic Neuralgia of the Extremities, alternating with	
Nervous Deafness	267
Nervous affection of the Ears from Malaria	267
Dr. Hunt and Dr. Holland on Influenza, as a cause of	
Neuralgia	268
Seat of Neuralgia caused by Influenza	269
Symptoms	270
Cases	271
Use of Emetics in Intermittent Neuralgia	273
Large doses of Quinine	273
Portuguese Plan of Treatment	274
Employment of Arsenic	274
Danger of a Relapse	274
Mrs. E.'s Case	275
Local Applications	275

	PAGE
Arsenic in Substance	276
Effects of Change of Air.	276
NEURALGIA; THE FIFTH AND SEVENTH PAIRS OF NERVES:	
THEIR SUBORDINATE DIVISIONS	277
Can the Portio Dura be affected with Neuralgia?	277
Opinions of Valleix, Reverdit, and others	277
M. Berard's case of Disease of the Cervical Vertebræ, with a Tumor in the posterior branch of the Second Cervical Nerve	279
M. Valleix on Cervico-Occipital Neuralgia	279
Symptoms of Neuralgia of the Facial Nerve, or of the Portio Dura	279
Condition of the Nerve in this variety of Neuralgia . . .	280
Dr. Abercrombie's case of Small Tumor on the Facial Branch of the Portio Dura	281
Cases of softening and destruction of portions of the Nerve, by Descot, Billard, and Serres	282
Mr. Pritchard's case of Paralysis of the Portiones Dura et Mollis	282
Order of frequency of Paralysis affecting the Cerebral Nerves	283
NEURALGIA, AS CONNECTED WITH RENAL DISEASE	
Mrs. E.'s case	285
Disease aggravated by residence in damp localities . . .	286
Dr. Christison on granular disease of the Kidney	286
Secondary affections; Chronic Rheumatism and Neuralgia	287
Amaurosis, associated with granular disease of the Kidneys	288
SYMPATHETIC HEADACHE	
Classification of Headaches	288
Causes of Sympathetic Headache	289
Symptoms and Treatment	290
Hemicrania, or Megrin	291

RHEUMATISM

AFFECTING THE STRUCTURES OF THE EAR.

ON RHEUMATISM GENERALLY.

THE extremely variable nature of our climate renders rheumatism in all its forms and complications a disease of extraordinary prevalence throughout the length and breadth of the land. The degree to which it is prevalent can scarcely be estimated, for thousands suffer from it in its chronic form, if not without complaint, at least without seeking for professional assistance; as they give credit to the popular persuasion that chronic rheumatism is altogether irremediable. The mortality occasionally attendant upon the acute variety of rheumatism, when complicated by the extension of the inflammatory action to one or more of the principal internal organs of the body, such as to the brain and its meninges, the heart and its covering—the pericardium, and to the lungs, and also upon the chronic form of the disease, one or more of

those organs, but especially the heart, having also been long implicated, and their structure more or less modified, is attested by the daily experience of our hospital physicians, and of the medical officers of our infirmaries and workhouses, and also by the weekly registers of births and deaths within the bills of mortality.

The annals of the profession, the medical journals teeming with the results of the experienced skill of medical men, contain numerous proofs of the great prevalence of rheumatism, both as an acute and as a chronic disease, and of the serious consequences which may follow the neglecting, for even a short time to seek for professional assistance, when the acute disease is present, and complicated with inflammation of the heart or lungs, and also of the crippling of the limbs, and the serious changes and alterations in structure which take place in the important internal organs in the chronic stage of this endemic disease. Rheumatism is to be met with throughout the world; in the hottest and the coldest climates men suffer from the effects of this widely-spread malady, and its extensive prevalence in this kingdom is a proof that temperate countries are quite as liable to the disease.

There are, perhaps, few diseases which prevail so extensively over the habitable globe, and which also are liable to affect so many structures of the human frame. The muscles, the tendinous and nervous

structures, the sheaths of tendons, the joints, especially the larger ones, the fibrous bag enveloping the heart, the scalp, and the muscles and pericranium covering the skull, the membranes inside the skull covering and protecting the brain, the central organ of sensation and of thought, the brain itself, according to some authors, the heart, lungs, and kidneys, which may be affected primarily and secondarily, the stomach and bowels, especially their muscular coats, the testes, the eye, the ear—the special subject of the present inquiries,—the spinal marrow and its membranes,—all are more or less subject to the attacks of this wide-spreading disease, and to the alterations and changes it may cause;—in fine, there seems scarcely a structure or organ appertaining to the human economy, which may not, either primarily or secondarily, be the seat of rheumatic disease, or be more or less modified in its structure and actions by its long protracted presence and effects.

This disease, so common among mankind, and so serious in its consequences to health, comfort, and life, and yet so little regarded by those who have not suffered from it, and know not all its important and influential bearings, may, and does act differently on different persons and on different constitutions. In some it occurs as a rheumatic fever; in others it affects the muscles of the loins, and is called lumbago; in others, again, it attacks the sciatic

nerve, and is termed sciatica ; in other cases, again, it affects the larger joints, either as an acute or chronic disease, causing all the symptoms of a specific inflammation, and leaving behind it stiffness of the joints, and of the tendons or leaders, which, being deprived of their full power of play within their sheaths by the deposit of lymph within them, become thereby thickened and impaired in their action ; the ligaments being also more or less affected, and the joints themselves, when they have long been the seat of rheumatic inflammation, becoming more or less extensively diseased, even to the formation of pus in their cavities. The muscles and fibrous structures, when affected by this disease, may be cured by what is termed the process of resolution, that is, by the entire disappearance of the disease, or it may recur from time to time ; or, again, it may leave constant evidence of its existence, in the shape of flying pains and other indications of suffering, attended sooner or later with crippling of the limbs, a contracted condition of the tendons, and stiffness of the joints, with a greater or less degree of paralysis of the motor nerves, or, in very rare cases, with suppuration extending between the fibres of the muscles principally affected, and even in the cavities of the joints themselves.

But it is among the important internal organs of the body that its principal dangerous effects are to be sought for. In the very acute inflammatory attacks,

affecting the joints and muscles, we may expect to find, a few days after the disease has shown itself in a violent form, evidence of its extension to the heart and its enveloping membrane, or of its transfer to the same part by what is termed metastasis, a process in diseased action, by which the condition producing disease is transferred by some peculiar or special action of the system from one part of the frame,—generally from a less important part—to one more or less intimately connected with the due carrying on the apparatus and functions of life. This process is repeatedly exemplified in the progress of the disease under our notice. There are few, if any, diseases in which metastasis takes place so readily and so frequently as in rheumatism, unless it be in its allied or congener malady, the gout. When the heart or its membranous bag has become involved in the disease, it frequently happens that the parenchyma or the intimate structure of the lungs soon after partakes in the inflammation, although that may happen to so slight a degree, as hardly to attract the notice of the medical attendant, in the face of the more serious and often fatal disease which he has to treat. It rarely occurs that patients suffering from rheumatism, in whom the heart and its appendages have become affected, thoroughly escape from its consequences, even when the disease has been apparently cured. The heart, one of the most important organs of the frame, is, as a

general rule, more or less damaged by the deposit of lymph on its pericardium, such layer either lying loosely on the membrane, or connecting it more or less closely to the organ itself, or the deposit being made on the membrane lining the heart internally, or else on the points or apices, or structure of the valves of the heart; in either case, clogging the apparatus, and interfering with the healthy action of the organ. Every fresh attack of rheumatic disease tends to involve the organ in a greater amount of mischief, and renders it less able to resist its inroads, until at last the frame, utterly broken up, —all its delicate structures impaired, and the due performance of their functions checked or prevented, —gives way under the additional consequences of repeated attacks of disease, which the mischief already created renders it incapable of withstanding, and thus disease is superadded upon disease, for the obstructions to the heart's action re-act on the lungs, liver, and kidneys, impeding and modifying their structure and functions; so that, amid severe suffering, the unhappy patient, with a broken constitution, and structural disease existing in all the important organs of life, becomes dropsical, and finally succumbs

General remarks such as these, on the effects of rheumatism of the scalp, brain, eye, and ear, might perhaps have been spared, or they would find a more appropriate place farther on in the pages of

the work. But this slight sketch of the disease as to its extreme spread through the world, the very large portion of the human body liable to its attacks, and the very severe consequences which are encountered, not only in the impairment of the general health, but in the destruction of the important internal organs of life, as the result of repeated invasions of the disease on a weakened frame, has been given, to show how thoroughly this disease claims the utmost attention of the medical practitioner, whether he consider it as affecting so many parts of the frame, or regard it as a special disease, involving one particular portion, such as the joints, the eye, the ear, the scalp, &c.

The daily and weekly newspapers, in town and in the country, attest the very great prevalence of rheumatism and the severe suffering it causes, for scarcely one of them appears without containing one or more advertisements recommending to the public credulity some one nostrum or other for the cure of this disease. I do not purpose alluding further to this fact, but merely mention it as a corroborative evidence in proof of the wide extension and very great prevalence of the disease; for empirics would hardly expect a large amount of remuneration for taking up any disease, and speculating as to the returns for their remedies, were it not a fact that it is of very frequent occurrence. As it not often happens, that persons continue

to have recourse to an empiric's pills and powders for a length of time, numbers must make up for that deficiency, and those can only be obtained when the disease they profess to treat is of constant occurrence, and frequently very chronic as to its character. The publication of numerous advertisements respecting the proposed treatment of any special disease, therefore, may be taken as a corroborative proof that the disease in question prevails extensively in the country in which they appear.

RHEUMATISM OF THE EAR

AND ITS APPENDAGES.

RHEUMATISM affecting the structures of the ear, has not hitherto, as far as my researches have enabled me to ascertain the fact, been noticed in any medical work. Having met with several cases, during the last few years, of rheumatic affections of that organ, in both the acute and chronic stages, and having carefully traced their progress, in some instances, to the establishment of serious and permanent mischief, and in others to ultimate recovery, I have deemed it my duty to call the attention of my professional brethren to the fact, that such diseases are to be met with, and to endeavour to point out the diagnostic and pathognomonic symptoms by which they may be detected, and also to detail the treatment which I have found to be most likely to be attended with success.

The study of the natural history of diseases must be always an object of paramount importance. To

pursue it with advantage, we must endeavour to trace the earliest symptoms of disease, and to ascertain their connexion with each other; to mark their progress as the disease advances, as well as to discover the effect they produce in the induction of morbid changes in the part affected. From a series of observations carefully conducted, we are enabled to draw most valuable inferences as to the character and nature of a disease, and its tendency to a spontaneous recovery, or to a fatal result, if unchecked or unmodified by the resources of art. The real state of the different organs and their functions during a morbid condition of the system would be more clearly and fully ascertained, and we should be enabled more accurately to diagnose the changes in those organs and the alteration of their functions, as well as the degree or extent to which those changes are carried, and we should also be able to discover the leading and pathognomonic symptoms, if such a series of carefully recorded observations have been made for some time respecting it. They would be especially useful in enabling us to form a correct judgment as to the real value of the various remedies which theory and experience combined lead us to employ for their treatment, for it must be confessed, there is nothing upon which a practitioner has greater difficulty in making up his mind than as to the effects of medicines, nor is there anything in the whole

science of medicine upon which there is a greater difference of opinion.

In the disease now under notice, it has been, I fear, too much the practice, to trust to its advancing to a spontaneous cure; or else, when its real nature and origin have not been discovered, it has been allowed to proceed unchecked, or nearly so, until serious alteration of structure has supervened. If, however, a judicious employment of such medical and surgical treatment as analogy would lead us to have recourse to, from its having proved eminently efficient, when rheumatism has attacked the neighbouring organ—the eye—were carried out with patience and perseverance, and with a due attention to differences of constitution, many an unhappy sufferer might be saved from severe bodily pain, perhaps from the loss of the function and from alteration of structure in the organ of hearing, and perhaps even from loss of life.

These reflections were excited in my mind in consequence of an investigation which I made into the causes of the disease in numerous cases of acute and chronic deafness, which are, and have been, continually falling under my notice; I satisfied myself during this investigation, that cases of rheumatic disease of the ear are of comparatively frequent occurrence, and further, that by appropriate medical and constitutional interference they are generally very amenable to treatment.

My attention was first directed to investigations respecting the probability of this organ sometimes being the seat of this disease, from the well-known fact that the eye is not unfrequently affected either primarily or secondarily in some individuals during an attack of rheumatism, and the results of my experience soon led me to seek for a pathognomonic symptom, by which the existence of rheumatic disease involving the organ of hearing might be recognised. It has been said that the eye is rarely implicated until the patient has suffered from two, three, or more attacks, that is to say, not until the system has become saturated with the poison of the disease. The same fact does not hold good with regard to the ear; for I believe, when rheumatism occurs, one or other of the structures of the ear becomes affected very soon. As is the case with the rheumatic eye, it may be difficult to state decidedly which of the structures is first implicated, but I am of opinion that the fibrous and periosteal coverings are those first engaged in the disease, and that it spreads thence to the other structures, passing on, if not interfered with, to the ultimate destruction of the organ.

The ear in general does not seem to be implicated until after the subsidence of the rheumatic affection of the joints, and sometimes even not until convalescence is somewhat advanced. The patient, after suffering for a longer or shorter time from the

usual symptoms indicating a rheumatic attack affecting the larger joints, whether it be or be not the first time that he labours under that disease, begins to suffer from some undefined, unaccustomed sensations about one side of the head. The scalp generally is tender, and exceedingly painful on pressure, and sometimes even on the slightest touch. The temple on that side, all the parts above the ear, the mastoid process, and even the neighbouring portion of the cheek, are the seat of a morbid sensation, with considerable pain; and the patient complains also of a deep heavy tinnitus, of a most distressing character. On making an examination of the ear, the lining membrane of the meatus, and the membrane of the tympanum, are found to be swollen and inflamed, and the latter has lost its transparency. Of course the sense of hearing is more or less impaired. The throat on the same side partakes in the disease; the neighbouring textures are swollen, and of a livid red colour, the inflammation extending up the Eustachian tube. The tonsil on the same side is engaged in the inflammation, causing, with the aid of the diseased condition of the other structures of the throat, considerable pain and difficulty in swallowing. The patient, while suffering from this rheumatic attack, as a matter of course, presents all the symptoms of febrile excitement, the intermission, however, being so well marked as to cause the fever to resemble

an ague. Exacerbation of all the symptoms takes place towards night, as usually occurs in disease of a rheumatic origin. The neighbouring organ—the eye—is sometimes inflamed before the ear is attacked, sometimes consentaneously with it, and sometimes not until after the disease of the organ of hearing has made some progress.

If this affection be allowed to proceed unchecked by any remedial measures, or, what is still worse, if its nature be mistaken, and it be regarded as a neuralgic or nervous pain affecting the ear, and treated by hot and stimulating local applications, all the symptoms will become more and more intense, the inflammation of the meatus and tympanum will induce such an amount of swelling as to preclude the possibility of carefully examining and correctly ascertaining its condition, suppuration will take place in the tympanal cavity, and will induce ulceration and ultimate destruction of the membrane, with consequent otorrhea, and the usual results attending unchecked inflammation and suppuration of that cavity. Nor will the mischief end there; for the inflammatory action which has, in all probability, already extended to the mastoid cells, and to their periosteum, as evidenced by the deep-seated pain and the tenderness of the part on pressure: will be followed by suppuration, with caries or exfoliation of the bone. The inflammation may extend also to the internal ear,

and there terminate in suppuration; and then, as it has already frequently occurred in many instances of other diseases of the ear, in which that termination has happened, the disease being either neglected, or inefficiently treated, and the suppuration having made its way through carious bone to the internal part of the cranium, the inflammatory action will extend to the dura mater, and ultimately cause death, by inflammation and ulceration of the membranes, and abscess of the brain itself. I say not that such results will of necessity follow the neglect of this very serious malady, but we are warranted by analogy in concluding that such a termination of the disease may occur in cases where it manifests itself with extraordinary activity, and no remedies have been used to arrest its progress, or where measures have been employed, the tendency of which would be to increase, or at least not to check, the mischief already going on in the parts. Similar results have been found to follow periostitis and caries of the internal ear, when not dependent on a specific cause for its origin, and the meninges of the brain have participated to such an extent in the inflammation, as to become the seat of fatal ulceration and suppuration. In the further chapters of this essay, cases will be narrated which will show that the rheumatic poison can induce as serious and fatal results as those we have just alluded to.

SYMPTOMS OF RHEUMATIC INFLAMMATION
OF THE EAR.

RHEUMATIC inflammation of the ear attacks more especially the fibrous structure of that organ; accordingly the perichondrium of the cartilage, the periosteum, the membrana tympani, and the neurilemma of the nerves, distributed to the cavity of the tympanum, and to the canals of the petrous bone, are first affected, and the disease spreads thence to the mucous membrane and to the other structures.

Rheumatic inflammation of the ear derives a peculiar character both from its local and constitutional symptoms. The objective appearances, perhaps, are not so fully to be relied upon as those symptoms affecting the body generally; but even here they are sufficient to enable an accurate observer to distinguish them. The dull red colour of the meatus, and the dryness and the altered condition of the membrana tympani, traversed, as it is, by numerous vessels, are especially characteristic. Should the patient make the attempt to force air into the cavity of the tympanum from the throat, and succeed in the effort, it will be followed by a considerable

aggravation of the pain, and by a feeling of tension and of fulness which remains for a long time, rendering the perception of sounds still more confused and more painful. There are some kinds of inflammation which derive their peculiarity, not from the texture that is inflamed, but from some specific virus, as is the case with the gouty, &c., and it is to be ascertained from their history, and from the assemblage of symptoms they present.

The seat, as well as the kind of pain, affords striking evidence of this in the rheumatic variety. Generally the chief seat of pain at the commencement is in the head, where it is complained of for some time, after which it extends towards the ears, attended with a disagreeable buzzing and tinkling sound, and a benumbing sensation involving the ear and temple; the pain next attacks the eye-ball and brow, and passes downwards to the jaws and teeth, very much resembling in its progress an attack of *tic-douloureux*, which, as its name implies, is a very painful affection. This peculiar pain is usually a symptom of inflammation of the meatus, of the tympanum, or of the Eustachian tube; and sometimes, but more rarely, it is entirely a nervous affection. The occurrence of this nervous otalgia has been denied by Kramer; but his translator, Dr. Bennett, is opposed to him on this point. The pain often first commences in a tooth, or may involve the whole jaw, and then extends to the ear, owing

to the intimate communication of nerves between these two parts.

Nervous otalgia, which, as has been just remarked, this peculiar pain closely resembles, not unfrequently occurs in females during the early months of utero-gestation, and is very frequently concomitant with odontalgia, even when no caries of the teeth exists. It is often induced by a carious tooth, *tic-douloureux*, neuralgia, rheumatism, gout, and affections of the stomach. M. Andral, in one case, found otalgia to alternate with sciatic neuralgia; and it has been frequently observed, that neuralgic pain on ceasing in the ear has shown itself in the face, and shortly after has returned to the ear.

In cases of severe otalgia, there is great constitutional sympathy, arising from the intimate communication existing between the different branches of the fifth, such as the gustatory, the dental, and the auricular, with the sympathetic, the portio dura, the glosso-pharyngeal, the pneumo-gastric, and accessory nerves. The diagnosis between this disease and otitis, whether it be rheumatic or idiopathic, is, that in otalgia the pain comes on suddenly, often remits, and, during the intervals, the patient is perfectly free from pain; but, upon the return of the paroxysm, the pain is again excruciating; there is also an absence of throbbing; whereas in otitis the pain gradually increases, is

continued, and attended by a sensation of violent throbbing. Sometimes the pain is confined to one half the head, sometimes over the nose, and it is of a dull agonizing kind rather than really acute, and though the pain in this complaint does not increase in severity, as in the last-named disease, yet it varies in degree, coming on at times in very severe paroxysms, and recurring with great violence when the head is bent downwards. Sometimes the pain is excited by merely touching the scalp, or by using the comb to the hair; the patient is generally unable to rest his head on the affected side.

The patient generally complains more of a sense of fulness and distension in the ear, as though some foreign body were within it, than of acute pain; and also of increased or exalted hearing, sound not inconveniencing the patient, as is the case with ordinary inflammation of the organ. The peculiarity of rheumatic inflammation of the ear is the texture in which it is seated, and the sympathy it has with similar parts of the system where the fibrous structures are found, such as the dura mater covering the brain, and the nose, or other parts of the body; when the disease involves the dura mater, it becomes of a very serious character; the local symptoms are generally accompanied with more or less symptomatic fever, which increases along with the pain towards night, disturbing the functions of the body and deranging the system gene-

rally. The progress and severity of this disease vary much, the attack being sometimes very slight, and soon subsiding without deranging the ear, whilst at other times it is extremely severe, continuing, in many instances, for a long time, and ultimately destroying the organ, as will be shown by the cases hereinafter to be detailed; it is doubtlessly influenced by a variety of causes, and will, in every case, be modified by the habits and the constitution of the individual.

When the rheumatic inflammation is very severe, or so as to be called acute, the pain in the head, in some cases, soon after the beginning of the disease, becomes agonizing; the parts within the meatus soon become inflamed, and a discharge ensues of a muco-purulent character. In two instances I had the opportunity of watching from the commencement the pain ceased shortly after, but in each the ear was irreparably lost. This inflammation may frequently be traced to a sudden change of temperature: in one case, the worst I ever saw, it occurred from travelling by railway, sitting at an open window, the parts being thus exposed to the influence of a direct current of air. It occurs most frequently in particular seasons of the year, as in the spring months, or during the winter; I have observed it in both sexes, but most frequently in adults and in those advanced in life. It usually affects one ear, but sometimes attacks

both, the inflammation being seldom so severe in the second as in the first affected. The foregoing description will in a measure point out the difference between this disease and ordinary otitis, although, as has been observed, much reliance must be placed upon the subjective symptoms; it is, nevertheless, apt to be confounded with the gouty, and other disorders of a similar kind, which affect the system by means of a specific virus. This is not to be wondered at when we consider the difficulty of discriminating between rheumatic and gouty affections of the joints and of other parts of the body. In the same manner as rheumatism and gout are often combined in other organs, so are they found to affect the ear. In some instances the rheumatic affection begins first, and the gouty follows; but it is not uncommon to find the latter disease only affecting the ear principally by metastasis. With reference to the foregoing set of symptoms, I cannot pass over one very unpleasant and occasionally alarming symptom which this disease may cause; I allude to the distressing noises in the ear, 'tinnitus aurium,' a symptom, which has offered so much opportunity to quackery, as patients are generally greatly alarmed at its persistence.

The continued noises of various descriptions, which in many instances will be found a very distinguishing feature of this diseased action, constitute the principal symptom, in fact, that appears to

engross the attention of the patient; there is scarcely any disorder, or rather symptom of disease, which has so occupied the attention of empirics as this, regardless of the nature of its cause, or utterly ignorant, as most of them are, of the proper remedies to be used for its relief. The public have been subjected to every variety of falsehood; their prejudices and prevailing weaknesses have all been worked upon to support any and every variety of quackery that has been proposed for the cure of this distressing malady, whilst the utter absence on their part of the necessary information has left them without the smallest protection from imposition. As to the cases bearing on this subject, I have endeavoured to select those which are either the most common or the most indisputable. I have often been astonished at the number of applications from this class of cases, at the institution to which I belong; the difficulty of tracing it to its source being greatly augmented because, as is self-evident, there is but little aid for its recognition by ocular examination, as in diseases of the eye, unless the symptoms present clear evidence of the injurious influences of disease, as in cases of gout; but this latter affection, as I shall have occasion to show in the course of this essay, is very much allied in its action and in its consequences to rheumatism attacking the ear or other parts of the body, and its sudden disappearance from the part in which it is located may be followed

by injurious consequences to the head and brain, by its transference to them by metastasis. In some observations which are to be found in the medical journals, I have stated that this latter disease occurs too frequently in practice to be treated lightly, or to pass unnoticed. It is a melancholy consideration for any humane and thoughtful mind, to notice the numerous nostras which are offered daily for the alleged cure of this distressing symptom, those recommending them being reckless and perhaps ignorant of the injury which may thus be inflicted on this very delicate organ by their use; on the other hand, some of the bad consequences that result, may, perhaps, be attributed to the patients themselves, who do not carry out with perseverance that plan of treatment which is advised or directed by authority, and is likely to be beneficial. The employment of local remedies in these diseases is gradually losing ground, and, fortunately, they are no longer regarded as the test whereby we can determine whether the cause of disorder be constitutional or otherwise.

Whilst admitting the frequent inefficacy of local treatment alone in these cases, and at times the disappointment that attends even the use of constitutional remedies, I yet think the latter are alone to be depended upon in the main, when the function of the organ only has been interfered with, the structures of the ear not having as yet undergone any alteration

or change. In many cases the partial deafness is not to be removed without change of air, and a sustained recourse to a judicious tonic plan of treatment. The recovery is at times extraordinary from its completeness, when such steps have been taken; should a relapse occur in some cases, it is to be attributed rather to an error in the treatment, or to renewed exposure to the causes that produced the disease in the first instance, than to the inefficiency of the remedies. As I have before stated, when seen and treated from the beginning, and their progress arrested by appropriate remedies, these cases are very amenable to treatment; but if allowed to continue, they become a sort of habit in the constitution, and return as periodically as sleeping and waking.

Diseases of the ear, when they arise from atmospheric or miasmatic impressions, as is frequently the case, combined with disorder of the general health, are not to be cured by external and local applications, but principally, if not exclusively, by those means which are calculated to remove diseased action, to restore the strength, and to reform the character of the constitution. Trifling with and irritating the organ, with drops, unguents, and lotions, is only betraying the patient into a flattering and useless anticipation of benefit, without any chance of eradicating, or even of reaching, the root of the disease. In the treatment of this malady

our object ought to be, not merely to remove it, but to do so at as little expense as possible to the stamina of the body. Colchicum, in small, well-regulated, and duly repeated doses, is to be prescribed and used both externally and internally, combined with such other remedies as the semeiology of the case may indicate. It is also necessary to adopt that regimen and method of life, and occasionally the use of those pharmaceutical remedies which are calculated to preserve or restore the general health; and by a slow and almost imperceptible influence, as it were, to give additional vigour to the stamina of the constitution. In the treatment of a disease—as such at times will be the case with the one in question, when neglected—it must appear desirable to effect the cure, when it is practicable, by means which act generally upon the body, rather than by those which operate solely, yet cure immediately, and with peculiar force. In the treatment of this affection when become chronic—and it is in this condition generally that we meet with it—when there is much pain in the head or ear, and the hearing is impaired, the local remedies are generally moderately antiphlogistic: bleeding may be relied upon, either by cupping or leeching; but much relief in the early attack may be obtained by emetics composed of the tartrate of antimony with ipecacuanha—the bowels being freely relieved; much caution is to be ob-

served in taking away blood. As with rheumatism in other parts of the body, the patient is seldom benefited by it alone: warmth, as a rule, is to be recommended. In the use of colchicum, than which, as a remedy, I know of none so likely to benefit the patient permanently, moderation and care are to be observed.

It may be proper to observe that it is expedient, more especially in chronic cases, that the prescriptions should be occasionally varied, in order to secure for any length of time the sustained influence of the drug upon the system. I have at times suspended the administration of colchicum, and returned to its use, after a short interval, with great advantage. By changing the preparation, also, we render it less necessary to increase the quantity of a curative agent; when, as after a certain period of time it generally will happen, any single remedy has lost in some degree its salutary action, the employment of another—although not intrinsically superior to it in power—will often be necessary to preserve a continuity of progress; administered in this way, colchicum will be found one of the most effectual of our remedies, given either alone or in combination with quinine. Yet there are many cases of this disease in which its use is forbidden by the condition of the patient.

The strongest evidence is afforded by the history of cases, that rheumatism is frequently the cause

of tinnitus aurium, and that the remedies relied upon for the relief of that disease, will not only greatly alleviate its local effect, but will, in many cases, effect a permanent cure.

It is not uncommon for the diseased action to seem for a time as if it were permanent, as is occasionally the case with most chronic affections; and our remedies not availing so speedily as could be desired, we are ever and anon applied to, by the patients or their friends, for an opinion as to the utility or advisability of having recourse to galvanism, or electricity; but my experience with regard to the treatment of this class of diseases by these agents, is by no means favourable to their employment. Although either may afford temporary relief, it is not likely that so fugitive an agent should produce any important permanent impression upon a chronic and constitutional disorder. With regard to those morbid affections, so to speak, which have been implanted by an external influence, or in some cases by inveterate habits, it may be used in addition to a vigilant and unceasing care to avoid any circumstances which may be harmful, but it can afford only transient relief. Little else can be expected from it.

In the chronic rheumatic affections of the head, affecting the ears with noise, &c., as a consequence, it is often very difficult, and sometimes impossible, to detect their immediate cause, even when the

transition or metastasis is apparently clear. A lady consulted me whose case illustrates this to a certain extent, and as she had some hesitation in believing that the unhealthy condition of her system generally was the cause of the affection, or of the noise in her ears, &c., I will briefly relate it.

Mrs. M., residing in the low parts of Essex, consulted me last winter for a distressing noise in her ear, accompanied with diminution of hearing, and a benumbed feeling over the side of her head. She stated that nothing was the matter with her health generally—her ear only the seat of mischief, for which, before she applied to me, she had used many drugs, recommended and advertised. Her history was, that, two years prior to the seizure in question, she had had an attack of rheumatism in her joints, attended with headache, and neuralgic pains along the temple and jaws. This she apparently recovered from, but six months after, the noise in the ears had become most distressing, especially in the evening. It was difficult to convince this lady that the symptoms in her head were connected with the cause of the noise in the ears; that by proper and well-directed constitutional treatment she would recover from both maladies,—if she avoided the use of all locally applied *nostra*, and of other reputed means which tradition only has made celebrated.

The case of the Rev. Mr. ——— resembles the foregoing, with the exception that the benumbed

sensation over the face and side of the head, followed a long sitting in his garden on a hot summer's day, but he was satisfied that he had not any disease in his ear prior to that; his case was treated for rheumatism of the head only. A variety of medicines had been administered in this gentleman's case without ever effectually checking the distressing noises—in fact, it was not suspected that the condition of the ear was caused by rheumatism, and the meatus, consequently, was never examined. This case is interesting, inasmuch as by a judicious administration of colchicum, and by directing attention to the chronic inflammation affecting the external auditory passage, the hearing was restored, and the noises ceased.

Dr. Hooker, whose work,* I think, will do much for the profession, by bringing the fact of the frequent existence of antecedent constitutional disease in connexion with apparently local disorder more fully and prominently before them, appositely says:—

“The physician often finds, on making his call upon a patient, that although he may think that his attack is only a thing of to-day, there is evidence that disease must have been preying upon his system for some length of time, gradually extending its ravages, till at length it has made a palpable outbreak; the patient may attribute his sickness to

* *Physician and Patient.*

some one cause, but there have been many causes uniting together, one after another, and swelling the still current of disease, which has now broken forth as a flood; and, as a general rule, the longer this preparation has been going on, the more obstinate does the physician expect the cure will be, and the more difficulty does he find in getting a definite knowledge of the nature and extent of the malady, and if he could always trace every train of disease up to all its sources, both original and ex-tributary, he would often be obliged to go back weeks and months, and sometimes years. In some cases such an explanation would lead through almost endless labyrinths. As it is, he often finds in attempting such a search, that those facts which are the least material in the eyes of the patient, and what may be overlooked by him in giving the history of his case, reveal, far back in the distance, causes which have had more influence than any other in producing this result. A sort of cross-questioning, and that sometimes of a rigid character, is often needed to develop material facts. The patient's own story without such questioning, would generally give to the physician very erroneous ideas of his case. The remarks that I have made apply with greater force to chronic, than they do to acute, diseases. For in them more especially, as you have already seen, does the sympathy which exists between the different organs extend and complicate the morbid

condition, and the operation of unseen causes contributes, sometimes very largely, to this result. Many chronic cases become exceedingly complex, and therefore obstinate from the course which the patient takes with himself before he comes under regular and systematic treatment. Perhaps, first, he goes through with domestic medication, and then takes patent medicines, recommended to him by kind neighbours, or blazoned forth in the newspaper; then he tries some vaunted system—Thompsonism, or hydropathy, or homœopathy, or chronothermalism—or perhaps all of them in succession. After going through all this, unless some one of these measures *chance* to benefit his case, (as *anything* may *chance* to do it,) he at last comes to a physician, and puts himself under his care. The case which was, perhaps, sufficiently complicated in the beginning to require strict investigation, is now rendered, by all this variety of practice, very intricate. The difficulty in understanding it lies in the varied effects which the different agents brought to bear on it have produced—effects which, in the retrospect, it is almost impossible to estimate with any correctness, because the physician has only the history given him by the patient, and the appearance of his present symptoms, to guide him in making up his opinion. If he had himself seen the case in its untouched condition, and then had witnessed the operation of the different remedies,

he would have been better able to arrive at satisfactory conclusions. A chronic case, in its best estate, needs to be watched for some little time, in order to acquire a just and thorough knowledge of its character. And when it has gone through a series of processes at *hap-hazard*, with no intelligent eye to observe it, it is no wonder that its condition should become a complicated and puzzling one. The physician, with such a case before him, is situated very much as the chemist would be into whose hands should be put a mixture which had been experimented on over and over again by different chemists, and by those, too, who were ignorant and bungling; and as you would not demand of him that he should arrive at once at definite results in examining the composition of such a mixture, but would give him time to apply various tests to it, so it should not be expected of the physician that he should fully understand at once the case which has been dabbled with by ignorant experimenters, one after another; but time must be given him to watch *his* tests, that he may see them bring out to view its real character and condition."

It must be obvious to the reader, that those who go through this round of experimenting, before they put themselves under the care of an intelligent physician, not only lose valuable time by so doing, but generally inflict upon themselves positive harm. The remedies which they have used, if they have

had no good effect, have helped to *fasten* the disease upon the system, and have increased its severity. They have done this by irritating the system, and, of course, the diseased organs, and by extending the complaint far beyond its original limits. It has been shown that through the sympathy existing between different organs, disease becomes extended and complicated. Well directed treatment has a tendency to prevent this extension of disease: mere blind experimenting, on the other hand, is apt to promote it; and if it do not have this effect, the patient is very fortunate.

Great acuteness of hearing occurs occasionally as an idiopathic affection in nervous and highly irritable individuals; it bears a striking analogy to that irritability of sight which is occasionally met with. The external senses, especially those of hearing and sight, strangely sympathize with each other. The increased acuteness of hearing depends upon a morbid excitement of the nerves, sometimes of the whole of the auditory organs, but more generally of some particular part, as of the tympanum, or the labyrinth, and particularly of the cochlea, or some one or more of the semicircular canals. In most instances it seems confined to the branches of the nerve. It is associated frequently with earache, headache, and acute pains along the jaws, which are generally periodical and rheumatic.

The sensation is sometimes so keen as to render

whispering, or a mere current of air in a room, or the respiration of persons present quite intolerable, while noises before too slight to be perceived or noticed become highly distressing.

I have at this moment before me a most impressive description of this effect, in a letter from a schoolmaster, about forty-four years of age, of an irritable habit of body, who about a twelvemonth since was attacked with a severe pain in the side of the head, while travelling by railway with the window open. This gentleman was obliged from his occupation to devote much time to study, as well as also to conduct classes for college, the constant labour disturbing his mind, and rendering his life, on account of his ill-health from rheumatism, &c., almost miserable; but the noises in his ears, and his mental annoyances were, he thought, relieved by application to business—otherwise, as he describes, his mind was uncomfortable, and thinking became almost as bad as reading. He resided near a marshy district, by which his ill-health was greatly aggravated; nor did it permanently improve until he changed his residence to the sea-side. The symptoms generally became aggravated towards morning, accompanied with acute pain in the head, which kept him awake for some hours; it was sometimes so severe as to alarm him as to the result; he feared he would become insane; the pain he describes as inferior to the distraction caused by the noises which accom-

panied it. He says "It usually comes on with a most painfully quick hearing. I feel as if the drum of the ear were stretched so tight as to make the least sound appear almost as loud as thunder; and a loud noise is just as if I had received a blow quite to the centre of the brain. This really is not imagination, but actual sensation. Moreover, a noise affects my eyes so much, that I am obliged to darken my room, when at any time I am under the necessity of hearing any thing like a noise; a loud sound affects my eyes, and a strong light my ears; they seem to act reciprocally. My head is certainly not so bad, nor any thing like it, as it was at —, but still the sudden attacks I have from over-exertion of the mental powers, or upon any other excitement, make me always fearful I shall lose my senses."

Dr. John Reid, in "his Treatise on Affections of the Organs of Sense," relates a case somewhat bearing upon this point:—

"During my attendance upon the Finsbury Dispensary, a remarkable instance of dimness of sight occurred, that had for some time previously been gradually approaching towards absolute blindness, which indeed had actually taken place in one of the eyes. The patient first perceived the dimness the day after she had been frightened by witnessing a violent paroxysm of epilepsy, with which her husband had been attacked the preceding night. Since that time she had herself become, although

not in the least so before, extremely liable to fits, and was apt to fall down insensible upon occasions of the slightest degree of agitation or surprise. Her dimness of sight seemed to consist, not in an injured state of the eye, but in a debility of the nervous system in general, that appeared more particularly in that delicate and exquisitely irritable part of it which is destined for the purposes of vision. The capacity of seeing with the eye that was not altogether blind, was intermittent, 'going and coming,' to use her own comparison, 'like the sun, when a cloud passes over it.' The patient, likewise, had been subject to deafness, which might be traced to the same circumstance as gave rise to her ophthalmic malady. Both symptoms had in all probability a common origin in nervous weakness or derangement."

The distinguishing features of this disease, and of those of otalgia, or of tic-douloureux, I think may be estimated by the dull and heavy pain over the side of the head, increased by warmth—the tenderness of the scalp, and of the hair when the comb or brush is used—the continuance of the noises—and the intermittence of the attacks.

NEURALGIA OF THE FACE.

From the symptoms by which this complaint is distinguished it is not difficult to decide concerning both its seat and nature, and to form a correct dia-

gnosis between it and rheumatic affections of the head, face, and ear. The character of the pain is very peculiar, and its course corresponds exactly with that of the nerves. The second branch of the fifth pair is, perhaps, more frequently affected than either the first or the third; but the portio dura of the seventh pair, which is distributed more extensively upon the face, is more frequently the seat of the affection than any of the branches of the fifth pair seem to be; this is a matter of no small regret, as it is difficult for any operation to reach that nerve effectually, although it is a difficulty which, as we shall presently find, has, in one instance at least, been encountered and surmounted; when, however, the disease is seated in the seventh pair of nerves, we can be at no loss to decide concerning it, in consequence of the course and divarication of the pain, which commences with great acuteness in the forepart of the cheek towards the mouth and also of the nose, sometimes spreading as high as the forehead, and ramifying in the direction of the ears. At other times, the forehead, temple, and inner angle of the eye on the side affected, and even the ball of the eye itself, form the chief seats of pungent agony, while, from irritation of the lachrymal gland, the eye weeps involuntarily. In this case we may reasonably suspect the disease to be seated in some part of the superior maxillary nerve, constituting the second branch of

the fifth pair. It is obvious that the radiation of the pain must vary according to the nerves or nervous twigs that are affected.

A physician of Marseilles has found headaches of a kind dependent on nervous disturbance, obstinate tic-douloureux, &c., curable by the application of liquor ammoniæ, on a dossil of lint, to the alveolar border of the palate. The solution is to be retained in contact with the mucous membrane immediately within the teeth, until an abundant effusion of tears is excited, when the exacerbation of pain will suddenly cease. This remedy proves more efficient against tic-douloureux attacking the frontal and the facial, than the occipital nerves; but it has been successful in several authenticated instances, in which the latter have been the seat of pain.

The disease has been occasionally mistaken for rheumatism, hemicrania, and toothache; yet the brevity of the paroxysm, the lancinating severity of the pang, the absence of all intumescence or inflammation, the comparative shallowness, instead of depth, of its seat, and its invariable divarication in the course of the facial nerves or their branches, will always be sufficient to distinguish it from every other kind of pain. And further, the absence of rheumatic symptoms in their usual *habitat* in other parts of the body, will serve as an essential means of diagnosis between this "nerve-ache," and rheu-

matic affections of the ear and head. Those symptoms are always present in a greater or less degree in the latter disease, either during its continuance, or some short time prior to the attack,—in the latter case leading to a belief that the ear affection depends on metastasis.

CHRONIC HEADACHE.

This symptom is rarely met with until disease has been established for some time, and its presence seems to indicate a thickening of one or more of the coverings of the brain from increased action, produced by a long course of irritation—a result which has frequently been discovered on dissection. When the affection is entirely rheumatic, the local pain in the head ceases as soon as a rheumatic pain takes place in any other part of the body. There is, indeed, no great difficulty in accounting for a cessation of pain under these circumstances upon the principle of a transfer of action; but we find it cease also, or remit very much, not unfrequently in other cases, in which post-mortem examinations have proved the disease to be dependent on local irritation, as from some bony protuberance from the interior of the skull, ossification, or calcareous concretions in some part of the substance of the brain, a tumour in the pineal gland, or in some other ganglion or commissure, or from an aneurism of the carotid artery; the two last of which are particularly described by

Sir Gilbert Blane, as having been detected after death in persons, who had been long and severely troubled with this modification of cephalæa. To account for the intervals of ease that occur under these circumstances, in which the cause of irritation is permanent and perpetually acting, we must call to mind that most organs, when they have been long exposed to a more than ordinary stimulus, become gradually exhausted and blunted in their sensibility, in consequence of such exposure; and hence the pain they are occasionally sensible of, and which returns in irregular paroxysms, must be produced by fresh causes of excitement, periodical or incidental, or by a serious aggravation of the disease itself.

The symptoms just described, as indicative of the causes and progress of chronic headache, whatever its origin may be, clearly show that it would be somewhat difficult to confound it with a rheumatic attack of any part of the head, although in some instances the diagnosis may be rendered somewhat obscure by the complication of the disease, chronic headache, with symptoms of a rheumatic tendency. The general history of the case, the previous symptoms of rheumatic disease in other parts of the body, the general signs of disturbed health, the result of the poisoned condition of the blood in the rheumatic diathesis, combined with the direct symptoms of this peculiar malady, as affecting the head or ear,

will all serve readily in the diagnosis of the one complaint from the other. When, however, chronic headache is complicated by the presence of rheumatic symptoms, the diagnosis is more obscure, but at the same time it is less requisite to ensure absolute accuracy, as the presence of those symptoms will render it necessary to combine the anti-rheumatic treatment with that which is required for the amelioration of the chronic headache.

Whilst discussing the effects of rheumatism on the structures of the ear, we cannot be surprised at finding that the neurilemma of the nerves should be equally affected by the same causes, and I am disposed to believe that it will account for many cases of partial paralysis of the face which have been met with, and which are so often mistaken for the results of more deeply seated mischief in the brain, the treatment of which also is so obviously different, that a notice of it in this section appears to be necessary.

Partial paralysis of the face is well known to every one, but not so the cause. When we bear in mind the different nerves supplying the head, neck, and face, we cannot be surprised that the functions of some should be affected, while others continue unimpaired. Indeed, the most common cases of partial paralysis which have been recorded by writers on palsy, are of certain *actions* of the muscles of the neck and throat. A frequent cause of this partial

paralysis, and one also affecting the ear, causing considerable pain in the organ, is rheumatism; this seldom produces any disturbance of the brain, a cause to which it has been hitherto much the fashion to refer all cases of paralysis.

A case I shall transcribe from a paper by Mr. Shaw, fully illustrates my opinion as to the occasional non-cerebral origin of partial paralysis; it is of frequent occurrence in practice, and is often mistaken. A man seized with a severe pain under his ear in a short time became so delirious, and his face so distorted, that the people in whose house he lodged, supposing him to be mad from brain fever, carried him to the parish workhouse. There he lay until his friends discovered him, and brought him to the hospital. It was then found that the frenzy which had led the people of the lodging-house to suppose that he was mad, was only a high delirium in consequence of a severe attack of cynanche parotidea; indeed the inflammation had run so high that an abscess had formed, and burst under the ear; when the swelling subsided, the degree of paralysis was easily noted: the delirium and the paralysis of the face naturally led the gentleman who first saw this patient to suppose that the symptoms were caused by an affection of the brain. Luckily, the treatment generally adopted in cases of phrenitis was that best adapted for the particular affection which had caused both the delirium and the paralysis.

Miss B., residing in the north of London, was seized with rheumatism of the arms and considerable pain in the muscles of the neck; the seizure was attributed to sitting at the window during an evening in the autumn; her face, the following morning, was observed to be distorted, and she complained also of considerable pain in the ear. She was subjected to a severe form of treatment, the paralysis being supposed to indicate disease of the brain. This lady's recovery was retarded, and the paralysis all but made permanent by the severity of the treatment, although the history of the case shows the seizure to have had a rheumatic origin only, and that most probably superficial. The character of the pain and the subsequent discharge from the ear, the muscular portion of the neck participating generally in the seizure, strongly point, in these cases, to a rheumatic origin, and show that much of the severity of the treatment might have been spared.

In these cases it would appear that the seventh nerve is not affected at all, but the motor branch of the fifth. When the muscles of the face are alone paralysed, it happens in a great majority of instances that the nervous function is interrupted in that part of the portio dura which lies encased in the bony canal, or in the more exposed part which issues in front of the ear; this particular form of palsy is, in general, unattended with any danger to life.

Under the term rheumatic paralysis I would include all cases in which the palsy followed the sudden application of cold, independently of any evidence of central spinal lesion; such cases are common enough; they are sometimes attended with peripheral pains of a rheumatic character, and even occasionally with redness and tumefaction of the joints, which, however, are always evanescent; the line of demarcation between rheumatism and some of these forms of eccentric paralysis is very ill defined, and, indeed, lends considerable support to the idea of a close connexion between rheumatism and some lesion of functions over which the true spinal system presides.

The symptoms are very much alike, yet the treatment in the former set of cases need be only palliative, whilst in the latter, considerable activity will be necessary, for it will be seen in the course of this essay, that the acute form of rheumatic inflammation, when it has seized the ear from metastatic action, is very much disposed to progress towards the brain, and produce disease of the bone.

Partial paralysis is commonly owing to some local affection. It is often possible to discover the cause by dissection; but where there is palsy of one entire side of the body, or where the internal organs are affected, there is generally so much disturbance to the whole structure of the brain as will probably prevent us from ever being able to

trace each class of symptoms to the affection of a particular part.

Dr. G. Bird remarks, "that paralysis of the portio dura is a not unfrequent affection, and I dare say it has fallen to the lot of my auditors to be called to cases of this kind after a patient has been cupped, blistered, and mercurialized, and his health and constitutional powers shattered by such unnecessary treatment,—a treatment for which the most profound ignorance hardly affords an excuse: the history of the case is sufficiently intelligible. A person, previously in health, exposes one side of the face to a little draught of air, or by sleeping near a window having a broken pane, or travelling in a railway carriage with a half-open window; the result of this is more or less pain and stiffness in the side of the face, followed by paralysis of the facial nerve. In such cases the stimulus of electricity remarkably aids the cure; the agent in question merely acts as a local stimulant to the paralyzed muscular fibres, and arouses their normal irritability."

Before proceeding to give an account of some of the cases of this disease which have fallen under my notice, and of the treatment which I have found it necessary to pursue, it will be as well, I think, to give a brief *resumé* of the symptoms which indicate an acute attack of rheumatism affecting the ear and the neighbouring organs. The patient, after suffering for a longer or a shorter time from

this peculiar malady affecting the larger joints, whether or not it be the first time he labours under that disease, begins to suffer from some undefined, unaccustomed sensations about one side of the head; the scalp generally is tender, and exceedingly painful on pressure, and that even sometimes on the slightest touch. The temple on the side affected, all the parts about the ear, the mastoid process, and even the vicinal portion of the cheek, are the seat of a morbid sensation, with considerable pain, and the patient complains also of a deep heavy booming tinnitus, of a most distressing character. On making an examination of the ear, the lining membrane of the meatus, and the membrane of the tympanum, are found to be swollen and inflamed, and the latter has lost its transparency. Of course the sense of hearing is more or less impaired. The throat on the same side partakes in the disease; the parts around are swollen, and of a lurid red colour, the inflammation extending up the Eustachian tube. The tonsil on the same side is engaged in the inflammation, causing, with the aid of the diseased condition of the other parts of the throat, considerable pain and difficulty in swallowing. This state of the parts involved in the rheumatic attack is, as a matter of course, attended with all the symptoms of febrile excitement, presenting, however, generally the characters of an intermittent fever. Exacerbation of all the

symptoms takes place towards night, as usually occurs in disease of a rheumatic origin. The neighbouring organ, the eye, is sometimes inflamed before the ear is attacked, sometimes consentaneously with it, and sometimes not until after the disease of the organ of hearing has made some progress.

The rapidity with which an acute attack of rheumatic inflammation of the ear often produces periostitis, and destroys the organ of hearing from periosteal inflammation and caries, has often astonished me; it shows clearly the necessity of vigilance on the part of the surgeon, as by early and judicious treatment much mischief may be prevented, and consequently also the disorganization of the internal apparatus of the organ.

Mr. G., a strong, stout man, consulted me in the autumn, suffering from a severe pain in his left ear, with a benumbed sensation extending over the temporal and mastoid processes, and considerable tenderness on touching or combing the hair over that part of the head. He also complained of a heavy, deep tinnitus in the organ of hearing. He informed me that about a month previously he had an attack of articular rheumatism, principally affecting both the knees, but occasionally invading the wrists and elbows. For this he was treated in the ordinary manner by his medical attendant. He was bled, leeches, purged, and I presume had colchicum, &c. This illness confined

him to the house for more than six weeks, during which time he had several paroxysmal attacks in the ear. After that time the rheumatic affection of the joints gradually subsided ; and when he came to me he complained principally of a shooting, throbbing pain in the ear, extending down the cheek-bone, with tenderness and numbness over the mastoid process. On examination of the meatus, I found it in a swollen and inflamed state, so that I could not ascertain the condition of the membrane of the tympanum. The inflammation of the meatus was accounted for by his having had several hot and stimulating applications, used both internally and externally to the ear during the paroxysmal attacks, on the supposition that they partook of the nature of *tic-douloureux*. The mucous membrane of the throat was involved in the disease, and the tonsil on the left side was inflamed and considerably swollen, thus giving rise to some difficulty in deglutition. He was forthwith recommended to lose blood by cupping, and by the application of leeches over the mastoid process, and I determined besides to bring his system under the influence of mercury, which was exhibited, combined with colchicum. This treatment was pursued for ten days, when the meatus of the ear was again examined, with a view to ascertain the condition of the membrana tympani. This I was enabled to do in consequence of the inflammation and swelling having

yielded to the antiphlogistic treatment I had adopted, and I soon satisfied myself that the membrane of the tympanum had lost its transparency, was of a brownish-red colour, and was bulging forward, appearing as if the cavity of the tympanum behind it were distended with pus. The pain he had previously suffered from was diminished in severity, but the tinnitus continued unabated. During this time he complained occasionally of flying pains in the joints. The ear was examined from time to time, and as the pain and tenderness over the mastoid process continued, I carefully examined the part, but could not detect any sensation of fluctuation. As, however, the symptoms had continued so long, I recommended that an incision should be made over the mastoid process down to the bone, expecting thus to free the tense and inflamed periosteum. Mr. G. experienced considerable relief from this, and, with the aid of an opiate, he slept better that night than he had done for two months previously. The wound was kept discharging, the pain in the ear gradually subsided, and the tenderness disappeared. Colchicum was then administered combined with quinine, and my patient finally got well, although the tinnitus continued, with some diminution of the hearing, for upwards of a twelvemonth afterwards.

This case is interesting as affording an illustration of the relief given to the patient, after the

integuments over the mastoid process had been freely laid open, and the periosteum divided, although suppuration had not taken place. There cannot be any doubt but that the cure was expedited by such a mode of proceeding, nor any respecting the effect colchicum has over tinnitus, even when of long duration, and arising from a rheumatic origin.

The next case was similar in many respects to that which I have just related, but it did not terminate so fortunately, in consequence, I believe, of the obstinacy of the patient in wilfully refusing to submit to the operation of incising the integuments over the mastoid process,—a proceeding that was urged upon her several times, but always unavailingly. The history of the case will show that its termination was most unhappy, the patient losing the power of hearing on that side, she having previously suffered from great constitutional disturbance and agony, the change of structure in the parts from the inflammation resulting in necrosis and exfoliation of bone.

Mrs. W., in the winter of 1847, was seized with rheumatism in the joints, and was in consequence confined to her bed for three months; during that time, in addition to the rheumatic arthritis under which she was suffering, she complained of great pain in the left mastoid region, with a discharge from the meatus, which was sometimes tinged with blood; the pain shooting from the ear to the temple, and down

the neck, accompanied with a heavy noise, and the tonsil on the same side was considerably enlarged. It was difficult to ascertain by an examination the condition of the parts within the passage, on account of their swollen and inflamed state, and the pain caused by the introduction of the speculum. I advised leeches to be applied immediately, and the mouth made sore by the exhibition of mercury, with the view of checking the rapidly increasing inflammation; the pain was, however, by no means lessened, and I therefore advised her to have the parts over the middle ear freely incised; but although strongly advised, both by myself and Mr. Lawrence, to submit, she refused, although it would, in all probability, have prevented the exfoliation of the bone. The mercury was continued, in combination with quinine, the latter being given with the view of supporting and strengthening her system during the progress of the destructive process.

In this way matters went on for some months, the patient suffering occasionally from renewed attacks of rheumatism in her joints, and the aural symptoms being aggravated during each paroxysm. Suppuration took place over the mastoid process, and a portion of the bone exfoliated, its separation being, as usual, a work of time and suffering. In the ear itself the disease continued to make progress; the ulceration of the membrana tympani continued, until very little of the membrane remained, and all the small auditory bones came away with

the discharge. My unfortunate patient thus, incurred a large amount of suffering which she might have avoided, and also the loss of hearing, with considerable structural disease. It was to me a matter of painful interest to watch the progress of this untoward case, until the principal structures of the ear were destroyed, feeling assured all the while that, had I been permitted to practise the incision over the mastoid process, as I desired, a very large portion of the suffering and mischief would have been prevented. The exfoliation of the bone would not have occurred, nor, in all probability, the destruction of the membrana tympani, and the loss of the ossicula auditûs.

The following case, published by Mr. Wilde, in the *Dublin Journal of Medical Sciences* for 1847, is of so much interest, and the symptoms so closely resemble those I have already described, that I shall quote it here, as an illustration of the importance of an early recognition of such cases, and as showing how much hazard may be incurred when the disease is injudiciously treated in the first instance.

“Mr. F., aged 49, with light hair, and fair complexion, had suffered several years ago from a severe attack of rheumatism, (during which the heart was affected), caught while exposed to a cold wind upon the top of a coach during a long journey through England; since that period he has been very liable to catch cold, in the head particularly, when the feet were exposed to damp or a low tem-

perature. These attacks of catarrh were characterized by violent fits of sneezing and running at the nose, and latterly his sense of smell became greatly impaired, and he perceived a stuffing in the right nostril, which rendered him very uncomfortable. During the summer of 1846, he was attacked with cough, expectoration, and other symptoms of bronchitis, in addition to the catarrhal affection. Having recovered from this, he remained in good health till January 1847, on the 28th of which month, during a period of very wet and severe weather, the present attack commenced. His own words are: 'About this period I wore a muffler about my neck; one sharp morning I walked into my office, laid it aside on my arrival, and being called off suddenly to the Four Courts, I forgot to put it on again. On my way there I felt a blast of sharp cold air strike my throat on the right side, under the ear, but I did not pay much attention to it, and remained in court most of the day, with my hat off occasionally. About two o'clock I felt a slight pain in the right ear, and got a bit of cotton-wool put into it; about six o'clock I returned home from my office; I called at my apothecary's, who dropped some warm oil and laudanum into my ear, which, for a time, lessened the pain, but did not completely remove it; but I was enabled to resume my business as usual, the next day.'

"Mr. Collins, to whom Mr. F. first applied, writes

to me as follows:—‘ When Mr. F. first called upon me, he complained of pain in his right ear, and also of slight shooting pains about that side of the head; he looked a little dull and heavy, but there was no fever, quickness of pulse, headache, deafness, or other symptom of importance present. I considered his attack to be of a rheumatic or neuralgic character, particularly as he had suffered a few years before from severe rheumatic fever; and as the pain in the ear was what he most complained of, I dropped some tincture of opium and olive oil into it, and applied a bit of wool to prevent its coming out: I also ordered him an aperient. Upon the next evening, Mr. F. again applied to me on his return from court, and stated that he had derived relief from the drops, until he was again exposed to cold and draughts that day: the drops were again applied, and with relief. The next day, Mr. F. resumed his usual avocations, but the pain continued to increase, and four leeches were applied behind the ear, and a poppy fomentation and a poultice applied with considerable relief, though some slight pain still remained in the ear and the side of the head. His sense of smelling now returned, and continued perfect for a few days, when it was again lost. Mr. F. confined himself to the house for the next two or three days, but would not consent to do so longer, as he felt much relieved of the pain, and business of great importance re-

quired his attention at his office. In a few days from this date, his former symptoms returned, to relieve which he was strongly recommended by a non-medical friend to drop into the ear a liniment of oil of turpentine and oil of cinnamon, which I prepared for him; but having experienced no benefit from this, he applied to you.'

"I first saw this gentleman upon the 13th of February; he complained of acute pain in his right ear, which, as appears from the foregoing account, had continued on and off during the previous fortnight. The pain he described as 'shooting' from the ear to the temple and top of the head, accompanied with a boiling and pumping noise, like that of a steam-engine;' the pain also appeared, according to his own description, to reach to the throat, without making it sore; it was increased by sneezing, but relieved by pressing the hand upon the ear and side of the head. Upon inspection, the auricle was found hot and somewhat swollen; the lining of the meatus and auditory canal was red, tumid, and completely devoid of cerumen: the introduction of the speculum and the examination caused a good deal of pain, from the tenderness of the parts: the membrana tympani was of a dark, brown-red colour, had lost its polish, and appeared to be swollen and pressed outwards: the projection of the malleus could not be discerned in front of the membrane: pressure in front of the ear gave a good

deal of pain; but there was no tenderness over the mastoid process. Rest, abstinence, confinement to the house, constant fomentations, leeches round the meatus; with small doses of blue pill, James' powder, and hyoscyamus at night, and an aperient in the morning, was the treatment resorted to during the next few days.

“ Upon the 19th, his symptoms, with the exception of the pain in the ear, continued much the same; he had also flying pains of a rheumatic character at the side of the head, the wrists, feet, and generally throughout the body. The pumping and boiling noise remained unabated: the deafness now became complete upon that side. The appearance of the ear continuing unchanged, except that the meatus was more swollen, it was deemed advisable to place him under the influence of mercury,—an opinion in which Dr. Stokes, who saw him with me, at that time concurred. He was accordingly, but with some difficulty, mercurialized by means of small and frequently repeated doses of blue pill, calomel, and opium. When his mouth became sore, the pain in the ear and the noise lessened somewhat, and the general rheumatic affection disappeared; but the meatus and auditory canal now became so much decreased in calibre, owing to the thickening of the lining of these parts, that it was not possible to gain more than a glimpse of the red and swollen *membrana tympani*. The leeching and blistering

were continued, and the surfaces denuded by the latter were dressed with extract of belladonna and mercurial ointment.

“March 10th.—The cuticle became detached, and a slight muco-purulent discharge took place from the external meatus; the ear was then syringed with plain tepid water; he was allowed a more generous diet, and placed upon the use of the hydriodate of potash, with infusion of bark and tincture of orange-peel. His general health was now improved; he slept better, and was able to go abroad and take exercise; the discharge, however, continued to increase, and emitted a very offensive odour; and, at the same time, he began to complain of a deep-seated soreness all over the side of the head, behind the ear, but particularly over the mastoid process and immediately below it. Towards the end of March, upon examining the ear carefully under a good light, a small polypoid excrescence of a light red colour, growing from the posterior wall of the canal, and completely filling up that cavity, was detected: this I removed with the wire snare, and the discharge then lessened; the soreness of the side of the head, the pumping, and the deafness, however, remained the same. Pressure over the mastoid process, and the post-aural region of the head, very much increased the soreness, and it was now evident that the periosteum covering these parts was inflamed. During the

latter part of the month of April, and all the month of May, the symptoms of periostitis remained much the same, and the scalp itself became inflamed, having a dusky red hue, pitting on pressure, and feeling excessively sore to the touch. The treatment consisted in the frequent abstraction of blood from the affected part by means of a few leeches, and a small cupping-glass applied over the leech-bites; poulticing, inunction with different ointments, both of a sedative and absorbent nature, slight vesicants, &c., and change of air. Bark, and iodide of potash were also recommended to improve the general state of the constitution. He had no headache, rigors, or perspirations, and his sleep and appetite were tolerably good; still, however, the pain continued, and the dusky redness and tumefaction of the scalp remained, although there was no evidence of suppuration. I was determined, in consultation with Mr. Cusack, to make an incision down to the bone, and thus free the periosteum, and give exit to any matter which might be retained beneath it. Accordingly, upon the 29th of May I made a perpendicular incision, about two inches long, nearly parallel with the posterior margin of the auricle, by inserting a sharp-pointed scalpel down to the bone at the point of insertion of the mastoid muscle, and carrying it upwards and a little backwards. The bone did not feel rough or gritty under the knife. A pledget of lint was inserted into

it, and when the hemorrhage had ceased, a linseed meal poultice was applied over it.

“The wound suppurated kindly, and all the surrounding soreness of the scalp and pain on pressure soon disappeared. As the discharge from the wound increased, that from the meatus lessened, and in about ten days the wound itself healed without any exfoliation of bone. The pumping noise now ceased altogether, the discharge from the ear also lessened very much, and all the uneasiness in the parts ceased. During the month of July, and till the 12th of August, I only saw Mr. F. occasionally. Upon examining the ear carefully at this latter date, I perceived that the meatus had regained its natural size, and I discovered another second small polypus in the situation of the first : this I also removed; and Mr. F. came to me in a day or two to inform me that the discharge had ceased altogether, and that the hearing had returned the night after I had extracted the polypus. He could now perceive the ticking of a watch at the distance of an inch from his ear, although he was quite unconscious of it when pressed against the auricle the day I last saw him. I could now distinguish the membrana tympani perfectly; it was of a dull white colour, evidently much thickened, but not perforated in any part.

“September 3rd.—He has continued to improve

in every respect; his health and spirits are quite restored; all discharge from the ear has ceased; the tinnitus aurium now consists in a slight 'booming,' which appears occasionally; the hearing is slowly returning. The snuffling and loss of smell I now found to be caused in a great measure by a small gelatinous polypus which filled up the cavity of the right anterior naris, the removal of which greatly assisted to restore both the freedom of respiration and the sense of smell."

This case is instructive, as exemplifying the rheumatic character of some of the inflammations of the ear, and as exhibiting the occasional failure of the mercurial treatment to cut the disease short, particularly if it has advanced to any height, as it had in this instance. The discharge came from the external ear from the irritation caused by the presence of the polypus. When this morbid growth appears during the progress of an inflammation in the meatus, it should always lead the practitioner to suspect that mischief is going on in the neighbourhood, and should cause him to examine with great care the condition of the mastoid process and its coverings, although neither the existence of a polypus, nor the fœtor or dark colour of the discharge, is of itself a sufficient proof that caries has commenced, or that denuded bone exists. The occurrence of periostitis, even at this late period of the disease, is not an unusual consequence of violent

otitis. The inflammation may spread from the periosteum, lining the bony portion of the meatus: or the mastoid cells may be, and often are, the seat of inflammation, which may extend from the layer of bone which covers them to the periosteum. If not relieved by such local and general means as were made use of in the early part of the foregoing case, the surgeon should not hesitate to incise the integument covering the mastoid process for an inch or more of its length. Almost immediate ease follows this operation, even though we fail to discover the existence of pus; and, moreover, delay after a certain period may cause considerable mischief, and may even prove fatal. A thin shell of bone is occasionally thrown off in such cases, but not always. Generally speaking, the otorrhea lessens, when the discharge from the wound is fully established, although there may not be any communication whatever between the parts from which these discharges come. Under such circumstances, it may be presumed that the incision has acted as a sort of counter-agent, or derivant of the irritation leading to the secretion of pus, which had been previously in existence in the meatus externus. I have had occasion to resort to this operation five times during the past year; in two cases it was followed by the exfoliation of a thin shell of bone; in all, hearing was restored either partially or completely. Performed in the situation and in the manner described in the fore-

going case, the hemorrhage which follows is generally very trifling.

I have given this interesting and important case at length, because it illustrates many points concerning the acute form of rheumatic inflammation, its effects in breaking down the soft structures of the ear, and its liability, without active and efficient interference, to terminate in the destruction of the bones, and ultimately in the loss of the organ. I shall now briefly relate a case, which has recently fallen under my observation, which, although not exactly similar in the early symptoms, nevertheless alternately followed the same course.

Mrs. U., a lady residing in the country, after an attack of influenza, was seized with severe rheumatic intermitting pains in the jaws of the right side, which in the interval attacked the ear, leaving a benumbed sensation both in that part and in the side of the head, accompanied also with sore throat and difficulty of swallowing.* As these pains in the jaws very much resembled that form of *tic-douloureux* of the face which arises from tooth-ache, and as she had several carious teeth, she was advised to have them extracted. This was done, but without in the least degree relieving the pain, which continued

* In the more chronic form of this rheumatic seizure where the throat is affected, and the Eustachian tube often obstructed for some time from the thickening of the mucous membrane and the accumulation of mucus, relief is obtainable by the introduction of the catheter. This, however, is but temporary, seldom lasting beyond the day,

very severe, and resisted all opiates and other treatment for a period of three weeks. The seizure appeared now to be directed more particularly towards the ear, and the pain confined to that locality, and to have assumed a permanent character: it was observed to be seated over and in the neighbourhood of the mastoid process; the meatus was swollen, and emitted a yellow discharge of an offensive character. The swollen state of the integuments of the meatus, and the discharge, prevented any accurate inspection of the membrane of the tympanum being made, but with the aid of the otoscope it was found to be perforated, and from the free passage of air through it, when the patient was directed to force air into the tympanum through the nostrils, the aperture was presumed to be a large one, thus fully accounting for the primary attack first affecting the middle portion of the organ. As the means adopted in the previous course of treatment had failed to afford any relief, although it was freely antiphlogistic, I determined on at once liberating the integuments over the mastoid process.

and frequently only for two or three hours. Permanent benefit, I think, is to be obtained more efficaciously by constitutional treatment, and bringing the membrane into healthy action by the use of astringent gargles, the tube being dilated with caution once or twice a week. I have observed much mischief to arise from the too frequent use of the instrument, and experience informs us that the passage is rarely so obstructed as to require frequent interference by operation.

This was done, and an opiate administered. She was, in consequence, relieved of pain to a certain extent, but not completely, until a free discharge was established from the part, after which her health rapidly improved, and the discharge from the meatus ceased. Her hearing will, doubtless, as in other analogous cases, be partially restored on that side, as the structures advance to a more healthy condition.

The first case (that related by Mr. Wilde), is intrinsically valuable, and coming from a gentleman whose opinions are in high estimation, I feel the more gratified that it corroborates in every essential particular the views I have maintained respecting the proximate seat of rheumatic periostitis in the ear. In the second case, the lady subsequently suffered from rheumatico-neuralgic symptoms of the face for some weeks, of a periodical character, which gradually yielded to quinine and colchicum. It would be easy to narrate other cases of a similar character, but I deem it unnecessary to do so, as they only tend to confirm the opinion I have before stated, and the efficacy of the treatment adopted. In no instance have my expectations been disappointed, where the patient has strictly adhered to the rules prescribed, but I must strongly urge the necessity of examining minutely into the condition of the mastoid process in all cases of this rheumatic attack, and of directing attention to the removal

of the primary cause, the periostitis, as that will, in many cases, not only prevent much severe suffering, but also the ultimate destruction of the bone, being fully persuaded, that by temporizing with this fearful malady, by the employment of merely topical remedies, much valuable time will be wasted, and grievous disappointment will be caused both to the surgeon and patient.

In the early treatment of acute rheumatic inflammation of the ear, whether it attack the organ from metastasis or idiopathically, much benefit is derived from the application of leeches; but this treatment, to be of service, must be carried on with some degree of vigour; a small number—six or eight—being applied in the neighbourhood of the organ, and more particularly over the mastoid process, this locality being, as the cases just described prove, the part mostly the seat of the principal mischief; they should be re-applied from time to time, until the severity of the symptoms has subsided. The ear should be kept warm, either by being covered with flannel, or what is preferable, with spongio-piline, and the meatus should be cleansed with tepid water occasionally. The constitutional treatment should consist in the exhibition of a brisk purgative, followed by small doses of mercury combined with the extract of the acetate of colchicum, given every two or three hours, until the mouth has become slightly tender. The sequelæ, viz., the neuralgia of the face and the periodi-

cal headache, which will be found very troublesome after-symptoms, should be treated as will be hereafter indicated in the chapter on those subjects. The last-named symptom is much relieved by the administration of guaiacum, either in the form of mixture or of pill. It is at this period when the disease has assumed the chronic form, that local applications may be of some service. A blister applied over the tender parts, and the wound thus made subsequently dressed with an ointment, composed of cerate and colchicum, with some small portion of belladonna or of opium, I have found to be an excellent adjuvant. I must not close this part of the treatment without alluding to the occasional extension of the malady to the muscular apparatus of the pharynx, and the benefit which results in such cases from external frictions with colchicum combined with soap or camphor liniment, over that part.

The plan of treatment which I have thus laid down, I have repeatedly carried into successful execution in managing those cases of the disease which have fallen early under my care; but instances occasionally come under notice where the malady has committed such extensive ravages, and has been too long established to permit the medical attendant to have recourse to these remedies alone with any prospect of success. Others again are encountered where, from the anemic character of the constitution,

from long and hurtful privations, from excesses, and from the injuries inflicted on the system by bad habits, and by exposure to the inclemencies of the weather, it would be most unwise and dangerous to subject the sufferer to the influence of any plan of medication at all bearing upon the antiphlogistic. In other, and perhaps much more rare, examples, that very peculiar character or condition of the human economy which has been termed idiosyncrasy, may interfere and prevent the due administration of appropriate remedies—nay, may even render it necessary and advisable to have recourse to a class of therapeutical agents at variance with, and altogether opposed to, those which, under ordinary circumstances, may be safely relied on for the purpose of effecting a cure of this very annoying, troublesome, painful, and dangerous disease. It would occupy too much space, and would be a needless trial of my readers' patience, were I to detail instances of each and of every one of these peculiar instances of rebellion to the ordinary effects of medication; nevertheless, I deem it advisable to put one case on record, as it may serve as an example of the rest, and may show that I do not regard the treatment of this disease in an empirical point of view.

B., a wine-cooper, upon admission at the dispensary, stated that he had suddenly become quite deaf subsequent to exposure to violent draughts and gusts of air, whilst engaged in bottling some wine

in the vaults beneath a chapel, and he had ever since had pain in the head of a rheumatic character: the pulse was quiet, and the symptoms threw but comparatively little light upon the case; leeches and blisters were applied, but without relief. Quinine and a generous diet were then prescribed, and under these the patient perfectly recovered, being the very opposite means to those ordinarily prescribed, leading one to reflect that every case should be studied singly, with reference to its own peculiar symptoms, as well as also with reference to cases of a similar type and character. In this case, tonics and a full diet gave that relief which blood-letting and purgation would afford in persons of an opposite habit. Probably, instead of there being too much blood in this case, there was really not enough, and that even deficient or imperfect in quality, that is to say, some of its constituents were abnormal, and either in excess, or the reverse; where the quantity of blood in the system is much diminished, whether from hemorrhage or diarrhea, this sort of pain in the head may be produced. In such cases the patient will complain (as B. did) that the pain is extraordinarily severe, with various noises and flashes of light before the eyes. All these symptoms serve to diagnosticate the case, as well as to distinguish it from those where there is an alteration in the structure of the contents of the cranium.

When the disease, to the consideration of which

the preceding pages have been devoted, has been misunderstood, neglected, or mistreated, it will make a more or less rapid progress, and sooner or later the periosteum of the organ will partake in the inflammation, and the osseous structures, as a necessary result, will also become involved. The inflammation, which, even when idiopathic or non-specific, is always a slow but exceedingly painful malady when it attacks a bone, will affect the texture of the osseous components of the ear, and partly from its peculiar character, and partly, also, from the anatomical peculiarities of the bones themselves, especially their cavernous construction, as manifested chiefly in the honeycomb appearance of the mastoid process, caries, with the ultimate destruction of the parts, will be the necessary result, unless, as is very improbable, the inflammatory action should run so high as to induce immediate necrosis or mortification of the bone. Nor will the mischief end here; the inflammatory action will extend inwards, and the fibrous structure of the dura mater will also become its seat, and the substance of the brain itself may be inflamed from contiguity and sympathy; nor are we without one or more instances, rare, very rare though they be, of the occurrence of suppuration in that organ as connected with rheumatic inflammation. Such is a brief summary of the consequences of neglected rheumatism of the ear and head. Let us see how facts bear out the statement.

EXTENSION OF THE RHEUMATIC INFLAMMATION TO
THE BONES OF THE EAR, AND MASTOID PROCESS.

Although the patient may not have complained of any particular pain in cases where the bone becomes involved in the disease, there will be remarked, deep in the meatus, a red spot somewhat swollen, which, after a time, opens in such a way, that a cavity is formed, whence issues a tolerable quantity of thin, fœtid, offensive pus. When the meatus has been cleared of the pus which collects at the bottom of it, there results a marked diminution of the difficulty of hearing, which attends the disease. At the bottom of the fistulous opening whence the pus issues, there is detected by the probe a rough surface, which may be either that of the bony meatus alone, or, if the disease have been of long duration, and of great severity, the bony structure being much engaged in the diseased action, of the mastoid process also, to the periosteum of which the inflammatory action occasionally extends. In the course of the disease, larger or smaller portions of these diseased osseous parts are thrown off, and, making their appearance at the fistulous opening communicating with the meatus, are either carried away along with the pus, or may be easily removed with the aid of the forceps.

When the dead, carious parts have been removed, either by perceptible or imperceptible exfoliation; and the influence of that dyscracy on which the caries depends, has been destroyed by the favourable co-operation of active, natural, and artificial means, the local disease can be removed without any great difficulty. The curative efforts of nature in these cases may be so effective, and may yet take so perverted a direction, that the meatus may become completely obliterated for some lines in length, with entire suppression of any secretion from the glandular structure, which is often destroyed in such cases, the result being an important degree of difficulty of hearing, if not of absolute deafness.

The disease evidently commences in the periotum covering the bony portion of the meatus; though it must be admitted that it may and does occur, secondarily, from the extension of caries from the petrous portion of the temporal bone, and of the mastoid process.

The occurrence of caries of the bones after an attack of rheumatic inflammation, or after ordinary otitis, is a matter of great interest, and is very frequently met with in practice. Dr. Abercrombie, in his interesting observations on this subject, informs us that idiopathic inflammation of the dura mater is very rare, but it occurs very frequently as a consequence of ear affections, and

I have reason to think that it is far more often the seat of mischief, as a result of rheumatism, than it is supposed to be.

This insidious and highly dangerous affection generally begins with pain in the ear, and for some time may be considered merely as a common ear-ache. Sooner or later, however, the inflammatory symptoms extend inwards, and are then speedily complicated by signs of cerebral irritation. Sometimes a discharge of matter takes place from the ear, which is expected to relieve the brain; but the pain continues or becomes more violent. The patient becomes oppressed and drowsy, then slightly delirious, often with shivering, and is at last comatose. In other cases there is no discharge of matter, but the patient, after complaining for a day or two of deep-seated pain in the ear, becomes restless and forgetful, lies rolling his head from side to side, or tossing about his arms, and in a short time sinks into coma. In other cases, again, the affection supervenes upon the sudden cessation of a purulent discharge from the ear, which perhaps had been of some standing; such as that which often follows scarlatina. The sudden disappearance of the discharge in these cases, is followed by pain in the ear, then by languor and drowsiness; and in a few days by coma.

The pulse is in some cases frequent, in others natural, and in others again below the natural standard.

The nature of this disease is illustrated by dissection. There is generally caries of the pars petrosa of the temporal bone, sometimes confined to a small part of the bone. A portion of the dura mater corresponding to this part, is inflamed and thickened, spongy, or ulcerated, and generally detached from the bone. Betwixt it and the arachnoid, there is commonly a deposition either of purulent matter, or of false membrane, this deposition sometimes extending along the tentorium. In some cases there is a superficial abscess of the brain itself, or of the cerebellum, often with effusion into the ventricles, and the other usual marks of general disease in the brain. Matter is also frequently found in the cells of the petrous portion, in the canals of the ear, and in the cavity of the tympanum, and sometimes it extends into the cells of the mastoid process, and is occasionally found in the brain itself, constituting a true abscess.

The diagnosis may be formed, from the examination of the diseased structure, with the probe; this, on being introduced through the fistulous opening, is felt to strike against the carious surface of the bony portion of the meatus; the membranous portion of the canal and the membrana tympani being apparently sound, unless they happen to suffer accidentally from some other independent disease. The progress of this inflammation of the periosteum is generally very chronic. Many years may elapse

ere the approach of puberty, if the patient be a child—or appropriate medical treatment, put an end to the exfoliating process, and at the same time, to the suppuration, after which the opening will heal without further trouble.

Scrofula is the most frequent predisposing cause of caries of the bony structures of the ear; but, in the absence of any practical information on the subject, the question must be left undecided, whether or not a gouty predisposition may not also exert a similar influence on this part of the organization. The evidence I possess from the records of cases that have been under my care, which it will be my object to bring forward in the course of this chapter, shows clearly that rheumatic inflammation, dependant on the peculiar dyscrasy, called the rheumatic diathesis, may, if allowed to proceed unchecked, extend in the course of time to the periosteum covering the osseous structure, and thence to the bones themselves, in which, as a natural consequence, caries will be set up, and unless it be met by appropriate treatment, will proceed to the utter destruction of the bony portion of the ear, and consequently to the loss of the function of hearing. Rheumatism then may cause caries of the bones of the ear, as well as scrofula, although, perhaps, not so frequently; and as rheumatism and gout are congener diseases, the probability is that the arthritic inflammation may also exert some influence of a similar kind upon those parts of the organ.

Without entering more fully into a description of the progress of caries, as affecting these structures, as it would be a work of supererogation, seeing that the profession are already well acquainted with the history of such cases, when the disease is dependent for its cause upon the strumous taint; and that caries, owing its origin to the extension of rheumatic inflammation from the soft parts to the bony structures, differs from the scrofulous variety, chiefly in that the general symptoms of struma—a class of symptoms ordinarily well marked—are superseded by those of rheumatism, which are equally characteristic, it may be as well at once to proceed with a notice of the plan of treatment which I have generally found it serviceable to adopt, interspersing perhaps, occasionally, as I may deem necessary, some few remarks on the disease itself.

It will be remembered that in the early treatment of this inflammation, prior to its extension to the bones of the auditory organ, leeching by relays and blistering were recommended, as well as the internal exhibition of small doses of mercury, with the extract of the acetate of colchicum, pushed so far as to render the mouth slightly tender,—colchicum being also used externally as a liniment, and in the form of ointment, as a dressing for the blistered surface.

We have now to consider the disease in a new and far more serious phase; either the remedies

already recommended have failed to produce their wonted effect on the constitution, or the disease has been neglected from the beginning; or else it has been mistaken, and consequently not subjected to a mode of treatment sufficiently vigorous, and so appropriately directed and combined as not merely to arrest its onward course, but to eradicate it altogether. In either case the inflammatory action, while involving the soft parts in a higher degree of disease, has extended to the periosteum lining the meatus, and thence to the same membrane, acting as a covering and protection to the middle and internal ears and to the mastoid cells, the bones having ultimately become the seat of disease, and carious. Under these circumstances, if the patient's constitution can bear it, as it is necessary to use decided and vigorous measures to prevent the further extension of the mischief to the membranes of the brain, the dose of the mercury and of the extract of the acetate of colchicum should be increased, and repeated as often as it can be borne, small doses of opium being so combined with the previous medication, as to prevent its running off by the bowels, and to aid it in making a decided impression on the system. If the state of the pulse will allow of it, the application of leeches to the part may, or rather should be, again had recourse to, and repeated from time to time, at no long intervals, until the inflammatory symptoms are subdued, or

blood may be abstracted by the application of cupping-glasses behind the ear; or, if the parts are too sore and painful for the pressure they exert to be easily borne, they may be applied to the nape of the neck, although not with so much benefit. If the symptoms of inflammation run very high, and there be evident indications that the meninges are involved in the disease, or even that the inflammation is only just commencing to extend to them, and the patient be young and vigorous, the constitution not broken down by repeated attacks of rheumatism in other parts of the body previously, the abstraction of blood may be made from the temporal artery, or a vein in the arm may be opened, and a moderate quantity of blood taken away. In general, however, I have found the local withdrawal of blood by cupping or the application of leeches, all that is necessary in that way for checking the progress of the disease.

As a matter of course, the biliary and alvine secretions being always disordered in these attacks, it will be advisable to precede the internal administration of calomel, colchicum, and opium, by a brisk purgative; or, if the tongue be very foul, the mouth clammy, with a burning and bitter taste, and the stomach greatly disordered, the exhibition of an emetocathartic may be advisable. It will be necessary, also, to attend to the alvine evacuations during the progress of the treatment, and to use those remedies

which are most appropriate and requisite for their correction and restoration to a healthy state, according to the indications presented by their colour, appearance, consistency, and relative degree of offensiveness. The urine, too, which is usually scanty, high-coloured, and loaded with the lithates, may render necessary the occasional, or the repeated exhibition of the alkaline diuretics, and diaphoretics may be needed, should the skin be, as it is sometimes, but not often, rough and dry. The contrary state, however, usually obtains, for it is generally bedewed, and absolutely bathed with a copious cold, clammy, and, as it were, greasy perspiration. In fine, the attack should be treated constitutionally according to first principles, the vigour of the medication being regulated according to the condition of the patient's constitution, and its capability of bearing up against both a rigorous and exhausting plan of treatment, and the severity of the disease besides.

With respect to the local treatment, that must be guided by the character of the symptoms. Applications to the ear itself, except they be of the most soothing nature, are worse than useless,—they are absolutely injurious; and the more stimulating they are, the greater will be the mischief they inflict. The patient whose case is described by Mr. Wilde, (p. 52,) prior to coming under that gentleman's care, applied, it appears, to a chemist, who, looking to symptoms, and to symptoms alone, ap-

plied laudanum and hot oils, which, although they might relieve for a time, must, sooner or later, increase the mischief they were intended to control. Fomentations with hot water, or, better still, with the decoction of poppies, previously carefully strained, so as to effect the removal of all the seeds, lest any of them should be conveyed into the ear-passages, and there increase the existing irritation, may be used freely and repeatedly, care being taken during the intervals between their application, to prevent the access of cold air to the part, by covering it warmly with flannel. Poultices might be serviceable, but their weight, and liability to get cold and dry, unless frequently changed, afford a great objection to their use.

Should the disease continue to make progress, notwithstanding the employment of these active measures, and the integuments over the mastoid process become very much swollen and tense, and highly inflamed, the symptoms also indicating the advance of the inflammation towards the internal structures of the head, experience shows that the greatest relief can be at once afforded, as in the case of periostitis, by a free incision through the skin down to the bone; and it will be found, further, that the amount of relief thus obtained will be very great, even if there be not yet any purulent matter beneath the periosteum. It sometimes happens after the incision has been practised, that the pain and in-

flammation are not fully checked, until the wound thus made has begun to discharge freely; but as soon as that occurs, it is surprising how great is the benefit conferred by it on the patient. The secretion of pus from the wound appears to act as a counter-agent to the otorrhea from the meatus, if it exist, as it usually does; for as soon as it is poured forth freely from the incised integuments over the mastoid process, the otorrhea ceases.

It is generally necessary, or at all events useful, to keep a tent in the wound till suppuration is established.* Much advantage may be gained by blistering the part, and administering the

* Two singular cases of otitis have also been recorded by Dr. Griffin in the *Dublin Journal of Medical Sciences*, in which the attendant symptoms were those of tertian ague. A young man who had previously enjoyed very good health, complained of pain in the left side of the head, attended by rigors. At first these paroxysms were rather irregular, but they very soon assumed the form of tertian ague, coming on every other day, at the same hour. The cold stage began about noon, lasting about half an hour; a feverish stage of somewhat longer duration then came on, and this was followed by a profuse sweat. In the intermissions, the pain in the head was not complained of; there was neither thirst nor heat of skin, but constant wakefulness; the patient could not sleep. A tumour was now observed over the mastoid process on the left side; this was opened, and a very large quantity of brownish and extremely offensive pus sprang out with very great force, giving considerable relief. The bone was carious over a space as big as a shilling. After about ten days, the pain in the head and in the mastoid process became very severe; the patient had violent shiver-

bichloride of mercury in small doses. It is in these cases that so much benefit is derived from the local application of colchicum, either in the form of an ointment or liniment. I have usually employed a prescription, used with great advantage at the Dispensary, — a compound of equal parts of tincture of rhubarb and tincture of cinchona, holding in solution one-sixteenth of a grain of the bichloride of mercury, for a dose.

ing fits many times during the day, great heat of skin, excessive thirst, vomiting, and delirium; his face was flushed and his pulse hard. He died within a few hours after the accession of these symptoms.

We observe, by no means rarely, when caries of the mastoid process has been the effect of an accidental inflammation, that, the constitution being good, it may be confined to this part, and never spread to the internal ear; but when it has arisen from constitutional predisposition, as from rheumatism or gout, or has been excited in an unhealthy person, the whole ear soon becomes involved, and even the squamous and internal portions of the bone may soon participate. These cases are frequently seen when discharges from the ear have existed for any length of time.

John Good applied at the Dispensary on account of a discharge from his right ear, which had existed for twelve years. He was suddenly seized after his attendance at the Dispensary, with acute rheumatism; it soon affected the head and ear, and although very active treatment was adopted, the periosteum speedily became involved in the disease, and ultimately caries of the bone occurred. This case shows how long a period a discharge may exist without danger; but it also forewarns us how much there is to be apprehended when any accidental seizure takes place, and how rapidly the bone may be destroyed.

This I advise to be taken once or twice a day as the case may require.

If there be any medicine more beneficial than another in the treatment of these diseases when become chronic—the consequences of attacks of rheumatism or gout, and attended with distressing pains in the head—it is the bichloride of mercury with colchicum, and I quote from the notes of Dr. Holland, as they are pertinent to my own in this matter. He says :

“ Among the different mercurial preparations, the oxymuriate, or bichloride of mercury, is not so generally used as it merits to be, though doubtless more extensively now than heretofore. Under discreet employment it is one of the most valuable remedies we possess. The power of giving it in solution is a material advantage in various parts of practice; rendering its action more certain, more equal, and probably, by readier absorption, more effectual as an alterative upon the whole system. I have seen its influence in augmenting the secretions, procuring the absorption of morbid growths, altering the state of the skin in many cutaneous disorders, and changing the character of morbid actions generally throughout the system, in cases where, I believe, no other medicine or combination of medicines would have had equal effect. Its conjunction with bark, steel, sarsaparilla, &c., affords resources of the greatest value in the treatment of

disease. And though otherwise held by common opinion, I think it on the whole as safe a medicine as calomel in the hands of the practitioner, inasmuch as its distribution can be made as equal and determinate; and its effects, from being given in a state of solution, are an advantage."

The tinnitus, which is sometimes complained of, in this and some other diseases of the ear, is an indication that the nervous structure of the organ is involved in the affection, and is from its nature, and also from its being an occasional precursor of apoplexy and paralysis, a cause of great dread and alarm to the patient.

Mr. B. was suddenly seized with rheumatism affecting the joints, which confined him to the house for two months; during this period he had an attack of rheumatic inflammation of the left eye, and shortly after, the head became affected on the same side, attended with a benumbed sensation over the temple and down the side of the neck; his recovery was slow, but during the convalescence his ear was from time to time attacked with pain towards evening. Each recovery from this seizure was attended with a distressing buzzing sound in the ear, which produced so much disturbance in his head as to cause alarm. For this unpleasant symptom numberless nostras were from time to time applied, regardless of the cause of the diseased action or the mischief done by their application. It is by no

means uncommon to observe it in patients who are susceptible to cold, and it is generally accompanied by symptoms of influenza; but the parts most affected are those about the throat; the ear when examined presenting nothing more than the conditions described in the prior chapter; the tonsil becomes enlarged on the diseased side, the throat dry and granular, and the continued noises before named are complained of; until the deranged parts are brought into a healthy condition, the hissing and buzzing noises remain unmodified. I have long since thought that these attacks, both from influenza and rheumatism, are the cause of this distressing symptom; they open the path to much quackery and imposition, and it is the duty of every candid practitioner to condemn the pernicious compounds daily advertised as cures, which tradition and empiricism have rendered popular.

To return to Mr. B.'s case; the tinnitus from which he suffered became so distressing, that he began to entertain fears as to his mind giving way; his intellectual faculties before this attack were very strong, but for months subsequently he suffered from weakness and occasional loss of memory. In this instance, much difficulty was experienced in inducing him to allow a treatment to be adopted, which had for its object the eradicating a rheumatic inflammation of the structures of the brain, and most probably of the dura mater. I believe this

gentleman is mainly indebted, both for the recovery of his hearing, and the preservation of his intellectual faculties, to his perseverance in the plan adopted, and the continuance of the small doses of oxymur. hydrarg. I am often astonished at the length of time this medicine can be administered with advantage and relief to patients affected with chronic diseases, with less likelihood of interruption by a disordered state of the stomach and bowels.

In many cases, after an attack of influenza we have to treat this troublesome affection,—noise in the ears. It generally commences during the convalescence of the patient, and in those whom the disease has left in a state of great debility, attended with periodical headache, the mucous membrane of the nose and fauces being also much obstructed. In some, the noise diminishes as the patient gains strength, but in others it is a very troublesome, and sometimes a very intractable symptom, perceptible in one or both ears, and it seldom finally leaves the patient until change of air has been obtained. In these cases I have found the preparations of iron very efficacious.

“It is worthy of note,” says Dr. Holland, “how long this medicine” (the bichloride of mercury) “may be continued in uninterrupted use without obvious injury or inconvenience. I have often given from four to six drachms of the liquor hydrarg. bichlorid., daily for six or eight

weeks, without causing any affection of the gums, irritation of the bowels, or any injurious effect which will render it needful to intermit or modify its use. In some cases this is not always possible; but the difficulties which arise from idiosyncrasy, or from other causes, are surmounted quite as readily as in the case of any other mercurial, and are rarely such as to prohibit the use of the medicine altogether.

“Perseverance in the use of this preparation of mercury is, according to my experience, of singular avail in the treatment of certain cerebral or spinal disorders, where there is reason to believe that effusion may have taken place, or that a state of obscure subacute inflammation exists, tending to that result. I have seen great benefit from it, steadily employed, in several cases of paraplegia, the usual slow progress of that disorder giving scope and time for its effects to be induced, and the danger in prospect justifying a full trial of the remedy. In other instances, where the object has been to procure absorption of a deposit or to change the condition of a thickened texture, or of the action leading to that state, as in particular cases of hypertrophy, I have found equal facility in maintaining its action for a long period, and that, too, without obvious injury to the system.

“I may repeat my persuasion, that much advantage may generally be gained from the larger and more

various employment of this mercurial preparation. But to obtain the full benefit, we must be patient as well as decided in its use. In those cases where it is of the greatest avail, the processes of change are often the slowest in their progress, and not evidenced by those instant and obvious results, which are sometimes needed to fortify the mind, even of the physician, in the perseverance proper to the practice, and still more, to satisfy the patient and those around him, alarmed, it may be, by the name of the drug, (which, if possible, should be studiously concealed from them,) and by the precautions taken as to its dose and effects. As a result of these or other difficulties, I have repeatedly known a course to be abandoned in the middle, (sometimes at the very moment when it was likely to be most effective,) and which there was every reason to believe was capable of relieving eventually a distressing or a dangerous malady. Such difficulties are best obviated by a right anticipation of what is to be done, and what to be expected; and by a steady perseverance in the same principles."

It is very important not to allow the matter which is secreted to accumulate in the meatus; the patient should therefore sleep on the affected side, the ear being frequently cleansed in the course of the day with warm water; if a syringe be used for that purpose, the greatest care should be observed, so that the

cleansing may be practised without the slightest violence or force, which in the diseased condition of these very delicate structures might, and most probably would, be attended with serious consequences. It becomes a question of some consequence whether it be not advisable in these cases to make an early opening into the mastoid cells, if there be no external communication previously established; the advantage being, that the opening being made at the most dependent part of the tympanum, the matter easily drains off, thus preventing any accumulation, and the consequent irritation of the parts.

The importance of ascertaining the condition of the mastoid process frequently, in cases of otorrhea, is obvious; for cases have occurred where a discharge has taken place from the cells and the internal ear through the mastoid process, and has burrowed under the cervical muscles, occasioning sloughing of the parts, and other annoying and dangerous consequences. The following case illustrates how insidiously the disease progresses, and how necessary it is to examine this part most carefully, and to decide on early treatment:—

Master B., at the age of seven years, had several attacks of earache, succeeded by a discharge of matter from the meatus; the pain at this period was generally referred to the side of the head and behind the ear; but from his occasional drowsiness after each

attack it was supposed to indicate some mischief within the cranium; a severe attack of rheumatic fever followed, causing all the additional symptoms of the joint affection. An enlargement of the mastoid process was observed during this period, and the swelling gradually extended down the back, and ultimately affected the spine, so much so as to cause some distortion of the neck. The head was drawn to one side, thus shewing that the disease was not within the cranium, as was at first supposed, but was an example of spinal disorder. Some time elapsed; and during the treatment of the disease (which was occasionally suspended), several medical men were consulted, each and all not allowing the case to have any reference to a diseased condition of the ear. I saw this case several years afterwards. The mastoid process was greatly diminished in size; in fact, it was flattened, as compared to the opposite one. There was considerable discharge from the ear, and the head was fixed to one side, with partial paralysis of the face. In this case it may be fairly presumed that if an early opening had been made for the discharge of the pus over the mastoid process, it would have prevented the burrowing of the purulent matter among the muscles of the neck, from the effects of which this poor lad was suffering when I was consulted, and might also have prevented the annoying consequences which, in this instance, there is every reason to believe will be permanent.

Dr. Abercrombie relates a case somewhat bearing on this point, but with this difference, that although the matter was partially discharged through the ear, and an incision was made over the mastoid process, the pus continued to burrow under the adjacent parts, and the unfortunate patient ultimately sunk under her sufferings.

“A young lady, aged fifteen, had been subject for six or seven years to attacks of pain in the right ear, followed by a discharge of matter; but she had been free from any of these attacks for some time previous to the illness which forms the subject of the following history.

“On the 25th of April, 1822, she complained of cold shivering through the day. On the 28th, she was seen by Mr. Brown, who found her with quick pulse and foul tongue, severe pain in the ear, and slight headache. On the 29th, some discharge took place from the ear, but without relief to the pain, which continued with violence on the following day. On the 1st of May, the pain was somewhat abated in the ear, but had extended over the right side of the head; pulse frequent; general and topical blood-letting were employed with partial relief. I saw her on the 3rd; the headache was then rather abated; the pulse was frequent and weak; she had a pale unhealthy aspect, and a look of oppression bordering upon coma. The pain was chiefly referred to the parts above and behind the right ear,

where the integuments were painful on pressure, and at one spot, near the mastoid process, felt soft and elevated; a puncture was made at this place with a lancet, but nothing was discharged. Topical bleeding, blistering, &c. were recommended. (4th.) Pulse in the morning 148, in the course of the day fell to 84; look of languor and exhaustion. (5th.) Dark-coloured matter of intolerable fœtor began to discharge from the puncture which had been made behind the ear. The opening here was enlarged, and a probe being introduced, the bone was felt bare and rough over a considerable space; headache much relieved, pulse natural. (6th.) Great discharge from the opening, headache much relieved, pulse 112; complained of some pain in the left side of the thorax, and there was considerable diarrhea. (7th.) No headache; there was much discharge of fœtid matter from the opening near the mastoid process, and a probe introduced into it, passed backwards and downwards under the integuments of the neck as far as the spine. (8th.) Pain in the thorax continued, and was now so urgent, that a small bleeding was employed with partial relief; it could not be carried further on account of her increasing weakness; pulse 140. (9th.) Said she felt better, and made no complaint of pain; pulse very rapid, and strength sinking; died on the 10th."

In the after treatment of this diseased condi-

tion, we must in the first place keep our attention fixed on the cachectic origin of the malady, and endeavour to remove or ameliorate this state, confining the topical treatment to keeping the wound clean. If a spicula of bone make its appearance at the opening, this should be early removed; the opening itself, however, scarcely ever requires any farther artificial enlargement. But when in any case the symptoms indicating mischief existing within the cranium, are added to those of constitutional origin, much advantage will be gained by an issue in the arm or a seton in the neck. Counteraction in these cases produced by these means I have observed to be of the utmost importance in these discharges from the ear; and when any tendency of the constitution remains, likely to keep up this diseased condition, the patient should be forewarned that in the event of any seizure of an accidental nature, either from injury, the outbreak of the eruptive diseases, or from rheumatism, an early application for medical assistance is indispensable; and the more so, as by an early attention to the symptoms, dangerous consequences may be prevented.

This affection of the ear and its consequences on the brain are of common occurrence: it is met with in persons who have shown a tendency to disease of the parts, by purulent discharges from the ear, or deep-seated suppuration behind the ear. A very

unmanageable abscess is often met with in this situation, from which a probe can be passed to a great depth into the cells of the mastoid process. It is generally a scrofulous affection, extremely tedious in its progress, and sometimes terminates fatally, by inflammation spreading to the dura mater. The matter which is formed in those affections, whether it be in the substance of the brain or between the membranes, sometimes finds a vent by the ear, the dura mater being ulcerated, and the bone perforated by caries, and in this way alarming symptoms are sometimes unexpectedly relieved. The relief, indeed, is in general but temporary. The patient continues liable to pain, followed by discharges from the ear, and at last dies comatose, often with the gradual abolition of the intellectual faculties, with tremors, general convulsions, or coma. In some cases of this kind there is reason to believe that a communication has existed, for a length of time, betwixt the ear and a diseased cavity within the cranium, and that the discharge thus afforded to the matter from time to time had retarded the fatal event. In a boy, mentioned by Sir B. C. Brodie, there was in the left hemisphere of the brain a cyst about three inches in diameter, containing thick dark-coloured pus; the lower part of it rested upon the petrous portion of the temporal bone; and there was an opening through the cyst, dura mater, and bone, forming a free communication betwixt the

cavity of the abscess and the meatus auditorius externus.* Examples, indeed, have occurred which would lead us to suppose that in some such cases the relief is permanent. A young lady in Edinburgh, several years ago, after the usual symptoms in the head, had lain for three or four days in a state of perfect coma, and her situation was considered as entirely hopeless. Her medical attendants, paying their visit as a matter of form, were astonished to find her one day sitting up and free from complaint; a copious discharge of matter had taken place from the ear with immediate relief, and she continued afterwards in good health. It is, however, by no means certain, that in such a case as this the discharge came from the cavity of the cranium; for there is reason to believe that extensive suppuration within the cavity of the tympanum is capable of producing symptoms of great urgency, especially if there should be any difficulty of finding an outlet. In a case of this kind, recorded by Itard, the matter, after the occurrence of urgent symptoms, escaped by the Eustachian tube, and, by constantly dropping down in that direction, produced cough and great irritation of the larynx; after partial relief in this manner, the symptoms in the head and in the ear returned, and were at length relieved by the punc-

* Transactions of the Association for the Improvement of Surgical Knowledge, vol. iii.

ture of the membrana tympani, by which a permanent and free issue for the matter was established.

The following case, which occurred in my own practice, illustrates, to a certain degree, the difficulty of diagnosing abscess of the brain, when symptoms of disease of the ear are present.

George D., aged 27, a mason, residing in the low parts of Poplar, suffered from rheumatic pains in the nape of the neck, extending to the shoulders, and felt occasionally in the lumbar region, and to such an extent as to cause him to remain for hours in a fixed position; there was at the same time a slight discharge from the right ear, with no very great degree of deafness. The pain, after a time, shifted from the neck to the occiput, and, from time to time, to the temporal region; it was attended with very severe general headache. When he presented himself as a patient at the Dispensary, he was observed to be slightly paralyzed on the right side of the face.

For the relief of these symptoms he was bled, and leeches were applied occasionally behind the ear; the pain at times subsided, but never ceased altogether in the temporal region, nor at the occiput. He was seen during his illness by Dr. R. Bennett, whose opinion was that he laboured under an attack of meningitis, the inflammation being connected more or less with the rheumatic diathesis. The

unfortunate sufferer lingered for upwards of six weeks, during which time he was never for a moment free from pain, and he sunk at last with symptoms of extensive cerebral disease. The *post-mortem* examination was conducted by my friend, Mr. Thos. Clarke, the younger, of Gerard-street, and myself, our principal object being to ascertain the progress the disease had made in reference to the ear. On examining the interior of the skull, a spot of a darkish brown colour (the opening being scarcely large enough to admit a pin), was discovered in the upper part of the petrous portion of the right temporal bone, at which place the dura mater was separated from the bone by a layer of pus; and an abscess, containing two drachms, or rather more, of purulent matter, was found in the right lobe of the cerebellum; no connexion could be made out between this abscess and the internal ear, although it is evident that the inflammation in the cerebellum, thus terminating in suppuration, was set up by sympathy with the inflamed and otherwise diseased organ of hearing. The membrane of the tympanum was ascertained to be entire and imperforate a short time before his death took place.

A case is recorded in the *London Medical Gazette*, by Dr. Russell, of Birmingham, in which a fearful and a fatal amount of mischief was inflicted before the patient came under his care. After detailing

the facts of the case at some length, he expresses himself as unable to assign the cause of the disease, but the history thereof clearly to my mind demonstrates its rheumatic origin. The patient, a nurse, 66 years of age, previously in the enjoyment of good health, and free from any hereditary or syphilitic taint, was attacked with pain in the right ear, which she attributed to exposure to very bitter weather, after having been in a hot room. Shortly after this she injured the part by a blow, and the combined effect of the two maladies was shown by the occurrence of suppuration, which was profusely discharged through the auditory passage, the natural consequence being a diminution of the suffering she had previously experienced. The relief, however, was of short duration; the pain soon returned and continued, the discharge, which was of fœtid pus, sometimes merely tinged with blood, and sometimes consisting of pure blood, also persisting. The pain was constant—at times intense; she described it as starting from the front of the ear, and radiating over the right side of the head, and across the occipital region, where it was most severe. After the lapse of some time, there occurred a degree of palsy of the right side of the face, and shortly before Dr. Russell was called in, a piece of bone, “like the mallet-bone,” came away. The disease, involving caries of the greater part of the temporal bone, was of great extent. An incision was

made, and the bone found to be largely exposed. The disease, however, continued to make progress, and the poor woman died, the intellect being preserved to the last, excepting occasional attacks of delirium at night during the last fortnight of her life.

The post-mortem appearances were peculiarly interesting: these we shall give in Dr. Russell's own words, as they mark an amount of disease not often met with.

“ The head alone was examined. On the right side, the integuments and external ear were separated from the bone as far backwards as the mastoid process, and below to the further part of the base of the skull; the inner surface of the interspace was in a state of slough, and emitted a most fetid stench. We found the entire squamous portion of the temporal bone, except a small piece of its upper part, entirely destroyed, and with it a part of the mastoid portion, laying open the mastoid cells; a large irregular opening was thus formed through the side of the skull. The petrous portion of the temporal bone was also destroyed, leaving only a few broken-down fragments, and a mere shell attached to the basilar process, at the base of the skull; an extensive sloughy cavity was thus formed, extending almost to the vertebræ, enclosed by the remains of soft parts, and covered with flabby, unhealthy granulations.

“ The dura mater adhered to the bone nearly to

the edge of the large opening; its outer surface, where exposed by the destruction of the bone, was sloughy; it was perforated by an opening, the size of a crown-piece, which corresponded to the commencement of a sloughy sinus through the substance of the brain; at a very small distance from the opening, the tissue of the membrane became quite healthy; the orifice of the internal auditory meatus remained, though unsupported by any bone, and without any remains of nerve. The lateral sinus, where lying upon the mastoid portion, was plugged with fibrine of a dirty colour, firmly adherent; it did not contain pus; by this clot the closure of the vessel in the jugular foramen (or opening) was complete. The eighth pair of nerves entered the jugular foramen as usual, but, on the under surface of the skull, the sloughing had removed every trace both of the jugular vein and of the nerves. The carotid artery was healthy; though deprived of its bony sheath, it was enveloped in a dense casing of granulation. The fifth pair of nerves was entire within the skull, but enclosed in a very dense thickened sheath, which must have exerted considerable pressure upon the nerve, and perhaps was one great cause of the intense pain; but here the dissection was incomplete; under the circumstances it was impossible to dissect the nerve after passing into its foramina on the under surface of the skull.

“*Brain.* From the opening in the dura mater a sloughy irregular passage led, through the substance of the brain, into the lateral ventricle, which was quite full of sloughy *debris* (or remains), and contained some thin pus in the lowest part of the posterior cornu; the left ventricle was almost as full as the right, apparently from the breaking down of the septum lucidum (or partition); the lining membrane of both ventricles was healthy, the sloughy matter being derived from without. In the neighbourhood of the sloughy passage the brain was a good deal softened, and implicated with foul pus; but in all other parts it was healthy. The surface of the right corpus striatum had been infiltrated, but the destructive process had not penetrated to any depth. The arachnoid and pia mater were healthy, except near the sloughing part; there were about two drachms of thin purulent fluid at the base of the brain.”

This case the author evidently looks upon as anomalous; he seeks to find a cause, and in despair of any other, refers to the patient's having been in the habit of picking the ear with a pin for some time, either as causative of the disease, or as indicative of previous inconvenience or annoyance in the part; the manner in which this habit is referred to does not enable us to determine which. Without at all attempting to depreciate the bad consequences which may result from the habit alluded to, it can-

not be a matter of much difficulty from the history, to refer this case to the rheumatic diathesis for its origin, in lieu of so far fetched a cause. The similarity in the cause and effects between this and many other cases which have come under my care at the Royal Dispensary for Diseases of the Ear, and in private practice, hardly admits of a doubt, in my mind at least, as to the nature of the real cause, and not even a shadow of a doubt would in all probability have existed, had the early history of the woman been inquired into, as that would most likely have disclosed some antecedent attack of rheumatism in some other part of the body, or some other signs by which the existence of the rheumatic diathesis might have been established.

In the treatment of these cases, when they have become chronic or subacute, we shall find an excellent adjuvant to our other remedial measures, in the employment of issues and of other counter-agents, used on a part of the body at some distance from the organ which is diseased. Counter-irritation, as it is termed by some writers, or counter-action—a name given to this principle for the treatment of disease by others, is certainly one of the most powerful of all our means of cure in those chronic diseases which have long been attended with a discharge of pus or of blood; and in very many cases, more especially in elderly people, whose systems have become reconciled to the daily drain,

its suppression would be attended with great danger, unless a counter-drain be opened by means of a permanent issue, seton, or by some other counter-agent. Apoplexy, palsy, epilepsy, hydrothorax, congestion or apoplexy of the lungs, structural disease of the heart, or a permanently deranged condition of the liver or kidneys, would constitute, according to the already disordered or diseased state of the organ selected by nature to bear the brunt of the attack, the means by which she would seek to relieve the frame from the consequences resulting from the sudden suppression of a long-established discharge. It does not fall within the scope of this work to allude to all the chronic diseases in the treatment of which the principle of counteraction may be safely and usefully applied: suffice it to say, that it may render essential service in the disease under our notice, chronic rheumatism of the ear and of the adjoining parts, with extension of the structural mischief to the bony portion of the ear, and even to the membranes of the brain.

The employment of counteraction in the treatment of this form of disease, and of those other chronic discharges from the ear, where in many cases it has become doubtful whether the internal structures have not become diseased from the length of time the otorrhea has been suffered to exist, has not had, in my opinion, a sufficient examination, nor is the practice adopted to the

extent which these cases admit of; in fact it has unfortunately all but become obsolete. We have daily evidence of the beneficial influence of counter-action in certain chronic affections of the eyes, and in many instances these affections of the ear are very similar. In diseases of the head their action is indispensable. We may here apply the axiom of John Hunter, that no two diseased actions affecting the general constitution can go on at the same time, for any considerable period in the system.

I am inclined to the opinion that when mischief arises from checking these old and long-continued discharges from the ear, it is caused by the wrong direction of our curative means; in fact, the too hasty drying up of the discharge, prior to the establishing a drain at some distance, either by issue or seton, as the case may require, will illustrate by the severe results which are sure to follow, the views entertained by many, but which are not exactly in accordance with my own, that certain local discharges are *salutary to the system at large, and cannot therefore be cured without risk*. Opinions closely coinciding with this hypothesis are to be found in the writings of many respectable authorities in medicine, and probably exert a controlling influence over the views of practical men, to an extent of which they are not fully aware. Many surgeons hesitate to undertake the cure of chronic discharges from the ear of long standing, under

some vague apprehension of the serious consequences which they properly consider may ensue.

If there be any foundation whatever for these grave forebodings, it is highly desirable that the profession should be furnished with a definite diagnosis of every salutary, protective, and critical disorder, or at least of the circumstances under which it becomes endowed with such singular prerogatives. For assuredly our attention has not as yet been directed to any very distinct beacons, whereby to forewarn us whenever the too busy exercise of our calling is likely to prove disastrous to our patient and confusing to ourselves. On the other hand, if these apprehensions be not founded on truth, and cannot be justified by an appeal to facts, it is high time that so sorry a bugbear should be stripped of its terrors.

It will suffice for the practical purpose of this inquiry, to confine our attention as much as possible to the question,—Is it in any case dangerous to accomplish the radical cure of local disease?

The subject has wide and extensive bearings. If it be unsafe to cure *some* diseases, because they are occasionally liable to revulsion or translation, the cure of *all* diseases to which the human frame is subject, whether acute or chronic, local or constitutional, may fairly be challenged; for what disorder can be named which has never been known, under medical treatment, to disappear and give place to another? Local maladies are often succeeded by

fever, and the decline of fever is yet more frequently followed by local affections. Gout and asthma, epilepsy and insanity, hemorrhoidal affections and hemiplegia, are occasionally observed to give place, not only to each other, but to every disorder from which we have learned to distinguish them; and as we never can tell whether the ghost of the departed distemper shall appear in a form more terrible, or less so than its defunct prototype, it is evident, that without a tolerable acquaintance with the prevailing phenomena of morbid metastasis, no physician or surgeon can prosecute his duties with well-founded satisfaction or confidence.

That profound thinker, John Hunter, was fully aware of the existence of the "principle" of revulsion and metastasis; and he reckons the proper understanding of its nature and effects to be "as useful a part of the healing art as any, and even more so; for it is probably the least known, as being the least intelligible, and, therefore, the more use may be derived from its investigation." (Hunter on the Blood, vol. ii., p. 134, ed. 1812.) Whatever intricacies may be connected with the analysis of this pathological question (and it is not denied that there are difficulties in the subject), its practical bearings involve nothing that is either obscure or mysterious. Yet even these appear to be scarcely understood, else the evils to which our attention is directed would not only have been by this time more clearly appreciated, but more easily avoided. Not-

withstanding the revolution effected in the treatment of local diseases by the writings of the late Mr. Abernethy, and others of his school, there is perceptible, even in the present day, a prevailing want of system in the general management of these disorders. Cases of metastasis through mismanagement, although comparatively rare, are far too numerous to be passed over as anomalies; and it will not be attempted to show, that to mismanagement alone are to be attributed a large share, if not the whole of the unfortunate contingencies presented by the records of medicine.

The efficacy of issues in various diseases has long been admitted; in those under consideration my attention was more immediately directed to their use by a case which was presented to my notice,—that of a young man who had had a discharge from the ear for many years. The periosteum covering the mastoid process was evidently diseased. He was observed to become drowsy and very sleepy, more particularly if the discharge were at all interfered with. I recommended him to have an issue opened in both arms, which not only after a short period had the effect of suspending the diseased action in the bones, but on the left side, where its progress had not been so great, it ultimately ceased, and the hearing became restored, the general health at the same time gradually improving. Since that period I scarcely ever allow an old

discharge from the ear to be interfered with, when any, however remote, evidence is present as to its having made progress towards the internal structures, without first establishing counteraction. Although I am now addressing myself only to the consideration of diseased action in one class of cases, viz. those of the ear and their effects on the head, I am quite sure the practice will be found to confer a similar amount of benefit in many other chronic diseases. It becomes an important question to ask ourselves, *whether or not there be any means to be adopted so as to create in some part (less essential to life than that in which the disease exists) another disease, by the creation of which counteraction may be induced, and thus the more important part having the action diverted from it, may be enabled, by a little assistance, to recover its healthy condition?* Another matter of considerable importance is, *whether*, in cases of hereditary liability to disease, we may not be able, by exciting a counteraction in a part less essential to life than that in which the liability exists, to defend that part by counteraction duly kept up, from being influenced, diseasedly, by any cause tending to excite a diseased action in the part?

To both these questions the answer is in the affirmative. Counteraction is the means, and consequently such a remedial principle can be applied most extensively.

The importance and the extent to which counter-

action may be carried, may be further illustrated by a few remarks on the *means* by which this counteraction is to be excited. Counteraction may be induced by means applied *internally*, *i.e.*, by the administration of medicines by the mouth or by the rectum; and *externally*, by the application of medicines to the skin, by the endermic method, and by the establishment of issues, and setons, or by the application of flying and permanent blisters, &c.

With regard to the *internal* use of medicines so as to produce counteraction, it may be remarked that, in affections of the *head*, stimulating *purgatives* are often used to draw the diseased action from the head by exciting the action of the *vessels of the bowels*. In cases of *abdominal dropsy*, violent purging is induced to excite counteraction, in order to remove the fluid by inducing the absorbent glands to renewed action, and at the same time overcoming the action connected with the *effusion* of the dropsical fluid. Indeed, in most diseased states, counteraction is frequently excited by the internal administration of medicines, and in that respect it may be regarded as an established principle in the treatment of disease.

But it is principally to counteraction, as induced by the application of remedial agents to the surface of the body, that attention is to be directed. The advantages connected with counteraction, so produced, are very great.

Here we can regulate the operation, because the changes produced can be seen. It is to this part and to that immediately beneath it, that the means called counter-agents (which have been enumerated previously), are applied. In their application, we must be guided by the circumstances of the particular case; and, bearing in mind the principle that our object is to *excite an action* in a part of the surface, so as either to *prevent a disease taking place, or to overcome it when it has taken place* in a more important part, the practitioner will be led to use means *proportioned in power*, and continued for the *time* necessary to effect the object sought. In many cases of long existing disease, the counteracting principle must be maintained for life.

All the means already noticed as counteragents, produce their effects by diverting diseased action from the part affected to another; or, by keeping up diseased action in one part, they prevent its development in parts more important. The remarks, therefore, which I have ventured to offer on these means, as connected with the removal of disease, or the prevention of its development, will, I trust, be found of the utmost importance.

MUSCULAR RHEUMATISM OF THE HEAD

may attack the whole or some part only of the fibro-muscular layer covering the cranium; sometimes it is confined to the nucha, sometimes to the vertex, sometimes to the sinciput, and it occasionally involves one half of the cranium, when it has been erroneously called hemicrania. This is, however, a misnomer when applied to designate any variety of the rheumatic disorder: for in true hemicrania the pain is not so severe, nor is the scalp tender on pressure, as in ordinary rheumatic attacks of the muscular coverings of the head; the former malady may, perhaps, present more of the neuralgic character; in many instances it may and does recur at regular, stated, periodical intervals, like an intermittent fever; it occurs sometimes accompanied with noises in the ears and floating bodies before the eyes, in women who are debilitated in consequence of prolonged lactation, hemorrhages, or from other causes of constitutional exhaustion; this form of headache is very manageable, generally yielding to tonics and iron in continued doses, but it frequently requires change of air, and good diet, to prevent a relapse: whereas the symptoms of rheumatism are generally of an inflammatory character, and demand a different form of treatment for their relief. The motions of the occipito-frontalis muscle and pressure on the parts affected greatly increase the

pain, which, in some cases, is exasperated by everything producing a determination of blood to the head, so that some patients cannot even cover their heads for a moment, or bear the heat of a pillow. The recumbent position often adds very much to the suffering of the patient, and this disease, as in every other variety of rheumatism, manifests its peculiar character by the usual exacerbation of all the symptoms at the approach of night. The pain in the head, which is sometimes declared to be intolerable, together with the heat and fever, becomes greatly aggravated after the patient has been in bed about an hour.

Thus, a man may get an attack of rheumatism in the scalp, which may extend to the temporal muscles, and prevent him from being able to depress his lower jaw; and I have known cases in which this condition of the temporal muscle has given rise to a suspicion of the existence of trismus, and even of tetanus. When you examine the articulation you find nothing amiss; but when pressure is made on the temporal muscle above the zygoma, the patient complains of more or less severe pain and tenderness of the part. The irritation and suffering produced by rheumatic inflammation may give rise to a fixed rigid state of the muscle, so that the patient cannot open his mouth.

Rheumatic headache is often preceded by a sense of coldness over the head and face, especially on one side. It is seated chiefly in the aponeurosis of

the occipito-frontalis and temporal muscles, but it is not always confined to that structure, being sometimes associated with increased vascular determination to the membranes covering and protecting the brain. The pain is severe, heavy, distracting, or aching, and in its uncomplicated state is attended by a sense of coldness, by great tenderness of the scalp, by rheumatic pains extending down the neck, or on one side of the neck, or in one shoulder, or in the face: sometimes by copious cold, clammy perspirations, and somewhat more rarely by rheumatic inflammation affecting one or both the eyes. It generally happens, however, that the patient complains of heat, and a sensation of uneasiness, not always amounting to pain, in the eyes and eyelids, and of some degree of imperfection of vision. Reading for any length of time, especially of the smaller kinds of print, and even steadfastly gazing at any object, is troublesome and even painful. Rheumatism of the head is generally aggravated in the evening, and alleviated in the morning, and, in some cases by warmth. There is no increase of the temperature of the scalp, or augmented action of the arteries of the head, unless the affection be complicated with excited vascular action in the internal membranes. If it be thus complicated these symptoms are also present; and, as Dr. Elliotson observes, there are likewise giddiness, drowsiness, and internal throbbings. This associated disorder is seldom

ameliorated by warmth, and the face is often flushed, the eyes injected, and the vessels loaded.

The causes of this variety of rheumatism are the same as those which induce it in other parts of the body, and the principal reason that can be assigned for its affecting the fibro-muscular structure of the head, the ear, eyes, or other parts about the head, in preference to the larger joints, must be their having been exposed more directly and immediately to the influence of the exciting causes. Draughts of cold air, when the head is much heated, and perspiring freely, encountering a violent gust of cold wind, exposure at a window, either of a house or of a railway carriage, to the draughts through a key-hole, or the chinks in a badly-made and badly-fitting door, sleeping with a bed-room window open, with such like causes, in a person rendered specially liable thereto, by being subject to the rheumatic diathesis, will serve to light up a more or less severe attack of the disease.

The extension of this peculiar inflammation to the membranes of the brain, or to that organ itself, will depend on the severity of the attack, and the amount of the power of resistance possessed and manifested by the system at large.

Individual cases have been recorded, in which the diseased action has been confined to a certain part of the head, and even to only one muscle. M. Chomel has sometimes observed rheumatism of the

masseter muscle, producing pain and difficulty in mastication. In some rheumatic patients, he has also seen the motions of the palpebræ become painful. The following case is one of rheumatism of the muscles of the eyes:—

CASE.—Marie Rabure, æt. 28, a servant, was admitted into the hospital La Charité, on the 19th July, 1815. Both her parents had been sufferers from rheumatism. For some time previously she had been subject to pains in the knees or shoulders for four or five days together. Eight days before admission, she suffered from rheumatic pains of the nucha, which prevented her turning her head from side to side, and she had a similar pain in the eyes, so that she could neither elevate nor depress them, nor turn them to either side without acute suffering: when she wished to look on one side, she was obliged to turn her whole body. These symptoms remained for about three days, when she was attacked with typhoid fever, which proved fatal. On examination, no changes could be detected either in the nucha, or in the muscles of the eyes. The fluids were not chemically examined, and of course, at the time this case occurred, but little was known respecting the aid to be derived from the microscope, so that the principal means now in use for ascertaining the existence of disease could not then be employed. The result is that the information to be derived in this case from pathological changes is entirely of a negative character.

Morgagni relates a case in which the tongue was affected with rheumatism, and a similar instance has fallen under M. Chomel's observation. The muscles of the pharynx are more frequently affected with rheumatism than has hitherto been supposed: this I have alluded to in another place. I have now under treatment a lady who can thoroughly bear out this last observation. On taking cold, she suffers from rheumatic pains of the limbs, and on the side of the head there is a benumbed sensation, accompanied with noise, and a discharge from the ear. This scarcely leaves her when she is seized with pain in the pharynx and in one half of the tongue, accompanied with difficulty of swallowing, and other symptoms of rheumatism of that organ.

At a meeting of the Pathological Society of London, held this session, Dr. James Bird narrated the details of a case of rheumatism, in which the scalp and muscles of the neck were primarily affected, but the disease soon extended to the brain and its membranes, and terminated fatally. It is a peculiarly interesting case. His patient was a female of a weakly delicate constitution, seventeen years of age, who had long suffered from one of the peculiar ailments of her sex. An attack of rheumatism, affecting chiefly the scalp and muscles of the neck, as evidenced by the symptoms, came on, and was soon followed by severe febrile symptoms of a typhoid form. Mr. Fennell, the gentle-

man under whose care the girl was, called in Dr. James Bird, after the disease had been some days in existence, and he found her in the following condition:—she was lying on the right side, complaining of extreme tenderness of the epigastrium, particularly when pressure was made upwards against the diaphragm; also tenderness of the precordial interspaces, much neuralgic tenderness and stiffness of the muscles of the left arm and leg, and of similar tenderness on the right side, but in a minor degree. There was epigastric pulsation, also vomiting and gastric irritability; short, quick respiration, and wandering delirium. The patient retained consciousness, and gave rational answers when roused. She had extreme tenderness over the nape of the neck, extending over the whole of the epicranial region, with much headache, and some degree of sore throat. She lay with her eyes quite open, and in a semi-comatose state; the pupils unnaturally dilated, and her countenance pale and languid; pulse 100, full but soft; temperature of the skin not greatly increased. The medicines that were prescribed,—mercury with chalk, with James' powder and opium, followed next morning by a purgative draught containing some wine of colchicum, afforded some relief, which was much increased by the abstraction of blood, to the amount of six ounces, from the nape of the neck by cupping. But this apparent advantage did not last long; indications of the inflammation extending to the heart

soon supervened, and the brain affection increased; delirium gave way to coma, and the poor girl died on the twelfth day of the attack.

The body was examined after death; the following is Dr. James Bird's account, from which it will be seen that the principal lesion was suppuration in the ventricles of the brain, with congestion of its membranes, the heart and its enveloping bag being comparatively healthy.

“Head. The pia mater presented, on the upper part, much dark venous congestion, unaccompanied by any serous effusion under the arachnoid; but at the base of the left hemisphere it presented a state of bright red vascularity, as seen in active inflammation of this membrane. There was no abnormal redness of the substance of the cerebrum, as far down as the corpus callosum; but, on cutting into the left ventricle, a gush of yellow purulent matter, mixed with clear flakes of lymph, to the amount of about three ounces, took place. There was an effusion of about an ounce of clear serum in the right ventricle. On removing the left hemisphere of the cerebrum, the abscess was laid open from the base. It was found occupying the ventricle, its cornu, and both the middle and posterior lobes of the hemisphere. It was partly lined by a soft flocculent vascular membrane, presenting somewhat of the villous vascular appearance of a mucous surface, and composed seemingly of the ventricular lining membrane. The cerebral substance in the

neighbourhood was softened, but was not abnormally vascular. The pia mater covering the inferior surface of the middle and posterior lobes was of a bright red vascularity.

“*Chest.* The lungs were healthy. The pericardium presented no signs of inflammation. In the right auricle and ventricle there were several firm carnified coagula; those in the ventricle adhering firmly to the cordæ tendineæ. There was no valvular disease on either side.

“*Abdomen.* The mucous coat of the stomach on its great curvature, from the cardiac to the pyloric orifice, was uniformly red and vascular. The liver was spread over a somewhat larger space than usual. The peritoneum and intestines presented appearances of venous congestion; as did the right kidney, which was examined, and found to be natural in structure. The uterus was small but normal.”

Dr. James Bird, in commenting on this interesting and important case, considers that many of the signs presented by the girl were “all so many proofs warranting the inference that the patient was of a rheumatic diathesis, and owed many of the symptoms of her last illness to a rheumatic condition of the blood,” which he regretted had not been subjected to a chemical examination. In that expression of regret all must coincide, as there can be but little doubt that the results of such an analysis

would have tended greatly to confirm the views as to the origin and nature of the disease, suggested by the symptoms of the case. That the disease was essentially of a rheumatic character, and dependent on a diseased state of the blood, on the presence of that morbid agent in the circulating fluid, which constitutes the *fons et origo* of rheumatism, few persons, we believe, will be tempted to deny; relying upon this opinion, we may draw attention to the peculiar appearances discovered in the brain, to the suppuration in the ventricles, as indicative of a very unusual termination of the disease, but one which may occasionally occur, as the facts before the profession prove, although some writers altogether deny the tendency of rheumatic inflammation to terminate in suppuration. Cases, however, have been published, in which a similar result has occurred in muscles affected with that peculiar or specific inflammation, and here we have an example of a similar termination in the inflammation of the lining membrane of the ventricles. The case altogether is peculiar, interesting, and instructive, but would have been much more so, had the purulent fluid and the blood been subjected to microscopic investigation, and had the latter or both fluids been examined by a competent analytical chemist.

The eye has long been regarded as subject to rheumatism, which may affect the organ generally, or the sclerotica principally. It may also occur as

an idiopathic malady, in persons who have not previously suffered from rheumatism, or it may be complicated with rheumatic symptoms in other parts of the body. The attack also may vary greatly in severity, and may be acute or chronic according to circumstances, and the intensity of the causes by which it is induced. Some authors do not consider that this peculiar inflammation is in reality dependent on the constitutional error which produces the rheumatic diathesis. In answer to the question, "What is meant by rheumatic ophthalmia?" Mackenzie of Glasgow replies,—“I mean simply, inflammation of the fibrous tissue of the eye, (the sclerotica,) and of the surrounding parts of similar structure, excited by exposure to cold.

“I do not believe it to be an inflammation differing from common inflammation *in kind*, in consequence of the existence of what has been called the rheumatic habit, or diathesis. When atmospheric influence produces catarrh, we never hear the occurrence referred to a mucous diathesis; nor when pleuritis arises from the same cause, do we attribute the disease to a serous diathesis. The same exciting cause, affecting a fibrous instead of a mucous or serous membrane, produces a new train of symptoms, dependent, not on the constitution of the person, but on the structure and functions of the part affected.”

With all due deference to the distinguished author

I have quoted, his arguments are altogether untenable. They are, to say the least of them, founded on a false basis. It amounts almost to an absurdity to contend that because pleurisy from exposure to cold is not referred to a *serous* (?) diathesis, ergo, rheumatic ophthalmia is not referable to the rheumatic diathesis. If, instead of the rheumatic, he had spoken of the fibrous diathesis, there might have been some foundation for the objection; but the existence of the rheumatic diathesis under other circumstances is not denied by any one, and it is far more reasonable to admit its influence as causative of this ophthalmia, especially as the chief anti-rheumatic remedy, colchicum, is most serviceable in its treatment, than to contend it has none, because of the non-existence of the serous or mucous diathesis, neither of which, we believe, was ever thought of, save by Dr. Mackenzie.

Mr. Lawrence, whose reputation as an oculist here, is equal to that enjoyed by Dr. Mackenzie in Scotland, differs entirely in opinion with him. He says, "Although many points in the pathology of gout and rheumatism are obscure, we know that these diseases particularly affect the fibrous structures, such as enter into the composition of joints, and are found in their neighbourhood, and the synovial membranes. When any morbid affection is the result of a particular constitutional disposition, there is a tendency in all the structures of the

same kind to be affected under certain circumstances; accordingly, those textures of the eye which resemble the fibrous, as the sclerotic and cornea, with the closely connected iris, and the mucous membrane of the eye, which is analogous to the synovial membrane of the joints, frequently suffer under the same state of constitution, which gives rise to rheumatic inflammation of similar structures in other parts of the body."

Certainly, in the majority of cases of what is commonly called rheumatic ophthalmia, there is no reason to suspect the previous presence of a morbid matter infecting the vital fluid; the disease is a peculiar inflammation excited by exposure to cold, or to the other causes of rheumatism, but still dependent on and aggravated by the constitutional affection or diathesis.

Dr. Jacob, of Dublin, holds views similar to those promulgated by Mackenzie. He says:—

"Neither these peculiarities, nor any other modification of symptoms, will, however, in my opinion, justify the practitioner in pronouncing positively that the disease is true rheumatic inflammation of the eye, unless there be unequivocal proof of the previous or present existence of the rheumatic constitution or diathesis, as indicated by inflammation of the joints, with the peculiar accompanying fever, or that disturbance of the system called acute rheumatism; or unless there be at least transient

shifting pains of joints or muscles, with brief febrile paroxysms, perspirations, lithic deposits in the urine, and general ill health."

Lawrence, in his "Treatise on the Diseases of the Eye," (already quoted, see *ante*,) gives a case which fully answers all Dr. Jacob's objections. The particulars are as follow:—

He says—"I was sent for to a gentleman who laboured under a severe rheumatic affection of one foot and knee and one hand, with pains in the back, and great constitutional excitement; the parts were swollen, slightly red, and very painful: it was one of the cases commonly called rheumatic gout. Active antiphlogistic treatment, followed by colchicum and other means, removed the rheumatic affection, and the patient considered himself well. After a short interval I called to inquire about his health, when he said that something was the matter with his eyes, and wished me to examine them. I looked at them hastily; the room was dark and the day dull, and I saw no appearance of disease. When I called again after a few days, as the complaint was repeated, I examined them more attentively. On bringing him towards the window he obviously felt the light troublesome; he drew down the eyebrows and half closed the eyelids to avoid it. The conjunctiva was natural, but the whole of the sclerotica had a livid red and mottled appearance, which might have been called dull, or

almost dirty, in comparison with the red colour of common active inflammation. The sclerotic vessels were partially distended; the redness terminated short of the cornea, so that there was a distinct white rim round the latter, as if it had been drawn with a compass. Vision was perfect; there was no pain so long as the eye remained at rest, but exertion of the organ, particularly under strong light, brought on uneasiness. The nature of this gentleman's occupations and of his tastes, which were literary, prevented him from giving his eye the necessary rest; and the above described condition of the sclerotica lasted for three or four months, making me apprehensive that some serious mischief to the organ would ensue. The affection, however, was confined to its original seat, merely exhibiting the obstinate nature which belongs to disorders of such structures; and it also disappeared completely, leaving the eyes with their organization and powers unimpaired. Cupping, leeches, and blistering were employed, with regulated diet, and occasional aperients. Plummer's pill was taken daily or twice a day, for about three months. Bark was tried without any advantage."—p. 239.

That this was a genuine case of chronic, or rather sub-acute, rheumatic scleritis, few or none can doubt; it is equally certain, from the history of the case, that the inflammation of the eyes owed its origin to the rheumatic diathesis.

Dr. Jacob, to whose views I cannot subscribe, raises a similar objection against the name *catarrho-rheumatic ophthalmia*, which is bestowed on a peculiar form of inflammation of the membranes of the eyeball.

He, however, considers it likely that a true rheumatic inflammation of the eyeball may exist; and lays down, *à priori*, rules for its treatment. Bleeding, he reasons, will be unsafe and unsatisfactory; purgatives are not to be relied on, except as assisting to drive out of the system the pernicious ingredient which lies at the root of the rheumatic diathesis; antimony and Dover's powder may sweat out the unwelcome visitor; while calomel with opium, is to be recommended, as a means with which to follow up the enemy, already in full retreat before the sudorifics. "Foreign writers," says Mr. Lawrence," particularly Germans, lay great stress on that peculiar state of constitution, which gives rise to these affections, and prefer the employment of such measures as they consider calculated to remove that state, to the use of means strictly antiphlogistic." This observation, when applied to chronic rheumatic affections of the ear, I can fully confirm; and that disease, if treated in this manner, will generally be cured.

Some very judicious remarks are made by Dr. Jacob on the use of bark, iodine, and other remedies. We do not, however, find any clear signs

laid down by him, by which true rheumatic ophthalmia is to be recognised.* All that he says is, that it must be preceded by other rheumatic affections, and must depend on the rheumatic diathesis. On this we shall venture a single remark. If Dr. Jacob believes, "that the eye is sometimes attacked by gouty inflammation, even before any joint or other organ has been affected," why should he be so incredulous as to rheumatism affecting the eye in a similar manner? †

* Mr. Canton, at a meeting of the Medical Society of London, mentioned the following peculiar diagnostic symptom in rheumatic ophthalmia. He says "he has so constantly seen it associated with this complaint, that he considers it will materially diminish the difficulty of diagnosis in doubtful cases. The symptom alluded to is a white deposit which collects at the internal canthus of the lids. It is most abundant when the urine contains a copious deposit of lithates. Sometimes he has observed it to be associated with pains in the limbs and larger joints." This deposit I shall have occasion to direct further attention to when discussing the causes and symptoms of arthritic inflammation of the ear, and I have reason to think, that with the assistance of the microscope, this diagnostic sign may be discovered early, and that it will aid in directing the practitioner to a more successful mode of treatment in these very troublesome affections.

† When rheumatism affects the eye, I have known it to last months ere the ear becomes affected; but it not unfrequently attacks them both simultaneously, or the ear very shortly after. The first evidence only is that of the distressing noises in the ear and head, and which offers to the unworthy the opportunity, without mercy or discrimination, to pour into the external meatus "the juice of cursed Hebanon in a vial, and in the porches of the ear

PERIOSTEAL HEADACHE—PERIOSTITIS.

THE headache, which is accompanied with a more deeply-seated diseased action of the structures, and which is better understood as being caused by periosteal inflammation, is far more important, and requires all our attention from the first; for, by any procrastination or wrong application or employment of remedies, mischief will soon extend to the bone.

In many particulars, the periosteal headache re-
they pour the leprous distilment.” Deafness exists without noises in the ear; and noises in the ear exist with more of a sense of confusion in hearing than positive deafness. Noises in the ear are produced by two causes, which prevent the proper vibration of the membrana tympani—an accumulation of cerumen in the meatus auditorius, and occlusion of the Eustachian tube. Hence the frequency of these noises during catarrh, and their removal by syringing the ears, or by inflating the Eustachian tubes in the ordinary way, by compressing the nostrils, and forcibly blowing the nose. But there are other noises of which persons complain, which are neither so simple in their origin, nor so easily removed,—such as musical sounds, or regular tunes, repeated again and again, voices singing and speaking, bells ringing, &c. The seat of these noises is not the ear, but the brain. They are often the renewal of former impressions in a morbid condition of the brain. They depend entirely on the state of the constitution, and on the circulation through the brain. The distress to which they give rise is dreadful in sane persons; and, in the insane, they constitute prominent symptoms of their insanity. They cease under the use of means directed to the removal of the morbid condition and irregular circulation, on which they depend. The treatment by which this is to be accomplished must be adapted to the nature of the case.—*Lancet*.

sembles the muscular. As in that species of cephalalgia, the pain is diffused, tensive, and remittent, increased by pressure, and by the action of the occipito-frontalis and temporal muscles. It may also be generally traced to the same exciting causes,—humidity and sudden changes of temperature. The parts affected in the merely muscular headache are equally involved in this; but, in addition the periosteum is also affected, and the sensorium is in a greater state of excitement. The pain itself is more deeply seated and more intense, and is attended with an augmented action of the external arteries of the head, as well as with more gastric and general febrile disturbance. The attack, moreover, does not so speedily subside; for although after a few days the muscular covering of the head can be moved without pain, and *slight* pressure no longer produces uneasiness, yet the periosteal pain and tenderness continue. *Firm* and deep pressure is still painful, and excites a sensation of distressing tension over the greater part of the head and face. The same kind of constrictive pain is produced almost invariably by going out of a warm into a cold room, or by taking off the usual covering of the head. The whole periosteum, indeed, of both the head and the face, is implicated in the disease, although those parts of the membrane suffer most which are but slightly protected. Hence the upper portion of the nose and the alveolar processes are particu-

larly affected. We may here remark, as a striking proof of the periosteum itself being the immediate seat of the malady, that the pain is frequently transferred for a time from the head to the face; soon returning, however, to its more accustomed seat around the head. It is not less remarkable that an increased feeling of tension may be induced over the whole, or the greater part of the head and face, by firm pressure upon any one point of the periosteum, covering either of those parts. Hence we may conclude that the structure affected is one common to both.

It may, perhaps, be supposed that the periosteal cephalalgia, now described, is only an aggravated form of rheumatic headache. It is, however, a far more complicated and intractable malady, and occurs, we believe, only to those who have previously suffered from continued cerebral excitement. In truth a two-fold predisposition appears to be essential to its production:—first, a highly susceptible, if not also a preternaturally vascular condition of the brain or of its membranes, such as is often induced by long-continued study or high mental excitement, as well as by the frequent occurrence of sympathetic headache, arising from gastric or hepatic disorder; and secondly, a state of debility and exhaustion, supervening upon that excited condition of the head, whether occurring spontaneously, or as the result of the depletory

measures employed for the removal of the previous cerebral excitement. If an individual, under these concurring circumstances, be exposed to a powerful exciting cause—such as a sudden diminution of temperature, especially if accompanied by humidity, he may have the periosteal cephalalgia induced—a disease of a singularly obstinate character, and apparently maintained by that condition of the brain or of its membranes, which existed prior to the supervention of the external malady. On the other hand, the pain and irritation connected with the external malady tends, in its turn, to perpetuate the morbidly excitable state of the brain. The following case may serve as an illustration.

A gentleman of a susceptible constitution, who had long been subject to occasional attacks of dyspeptic headache, and had frequently suffered from mental application during a long and laborious course of study, was thrown at once into active employment, by undertaking the onerous duties of a large public institution. Much pain and excitement of head ensued; general and local bleeding, mercurial purgatives, antimony, low diet, &c., were considered necessary. The symptoms subsided considerably, but the brain and nervous system remained in a state of extreme susceptibility. On some recurrence of pain, it was judged needful to shave the head, which was done on a cold wet evening, while he was labouring under

great exhaustion. The ordinary covering of a thin night-cap was the only thing worn by him during the night. On awaking from sleep, a severe constrictive pain was felt over the whole head, attended with heat and tenderness of the scalp, throbbing of the temporal arteries, considerable cerebral excitement, and vomiting. In truth, an external periosteal disease was thus engrafted upon a head previously suffering from high and continued excitement. After a few days, the mere superficial tenderness subsided, but the periosteal affection proved exceedingly intractable. In this case, it seems probable that the frequent occurrence of sympathetic headache, aided by the excitement attendant on long continued study, had induced an undue degree of vascularity and of nervous susceptibility in the brain generally; while the remarkable prostration of vital power, consequent upon the depletory measures employed, seemed to increase the nervous susceptibility, and thus concurred to form that two-fold predisposition of which we have before spoken, and without which, we apprehend, the subsequent exposure to cold and humidity would have been insufficient to excite the peculiar periosteal cephalalgia, although it might have produced an ordinary rheumatic affection of the scalp. So exquisitely sensitive does the pericranium remain in these cases, so readily affected by every exposure to humidity or sudden reduction of temperature, and

so apt to participate in every occasional excitement of the brain, that one attack of the complaint has scarcely time to subside, before some fresh exposure gives rise to a decided augmentation of disease.

In the treatment of periosteal headache the first object must be to lessen the general cerebral excitement, as well as the inflammatory tendency and morbid sensitiveness of the affected membrane. Local bleeding, mercurial purgatives, antimonials, the acetate or citrate of ammonia, and similar means, are best adapted to fulfil these indications. Opiates are of a doubtful efficacy. Should much nausea occur at the commencement of the attack, an emetic would be advisable; after which a dose of calomel and antimony, followed by a saline purgative, will generally be found very advantageous. The utmost quietude of mind should be preserved.

After the acute symptoms have been subdued, vigilant attention will be necessary to guard against a relapse. The susceptibility of the pericranium may be moderated by the gradual use of cold washing, followed by gentle friction of the head, as well as by a free though prudent exposure to the open air in the way of carriage, horse, and walking exercise. A residence in a dry and somewhat elevated situation will materially conduce to the patient's recovery. But it must also be remembered that the morbid condition of the membrane may be main-

tained by undue cerebral excitement, and that therefore, due discipline of the mind, and the avoidance of intense or long continued study, and of every engagement and pursuit which may tend to perpetuate that excitement, are absolutely essential to a permanent cure.

Under the division of periosteal headache, it may be proper to describe that affection of the pericranium which has been called by Sir Ph. Crampton, *periostitis*. Cases in some respects similar had been published by Sir Everard Home previously, and some important illustrations of the same subject have also been added by that accurate and distinguished pathologist, Dr. Abercrombie. Fixed pain of the head and tenderness of some portion of the scalp, with a degree of thickening and swelling of the integuments, were the characteristic symptoms. The periosteum was generally found thickened, and in some cases, the bone itself was diseased. In the majority of instances, some affection of the brain co-existed with the periosteal disease. It would seem probable, however, that the periosteum was primarily affected in several of the cases adduced; in those, particularly, in which complete and permanent relief followed the division of the pericranium, and the keeping the wound open for a considerable time.

A series of papers have appeared in late numbers of the *Lancet*, from the pen of Dr. Goolden, assistant

physician to St. Thomas' Hospital, entitled, "Periosteal disease affecting the dura mater." As he bears out, in some degree, the views that have been taken respecting periostitis, I have thought it advisable to give a rather full abstract of his interesting and valuable communication; more especially as it is a subject which, as yet, has been but little mooted by the profession, and may be said, indeed, to be almost unknown to a large proportion of medical men. It is not to be looked upon as in any way identical with the periosteal headache, connected with undue cerebral excitement, but rather as a congener disease with the periostitis of Sir Ph. Crampton, briefly alluded to above. He speaks of the complaint of which he treats as an affection of the dura mater, either coëxistent, or at least assimilated with a general affection of the periosteum. It is, he says, part of the same morbid state, and it has no necessary connexion either with a peculiar specific poison or with mercury, though these poisons, and especially the latter, greatly favour its development. The worst cases he has seen have been those of patients who have taken large quantities of mercury for fevers or hepatic disease in the tropics, often many years preceding, and have afterwards been exposed to cold and damp in our more northern climates. Cases of this affection are frequently met with on board the *Dreadnought*, where it would appear Dr. Goolden first saw the disease.

They are very common and very severe. "They give way, at least for the time, to very simple treatment—viz., iodide of potassa, with sarsaparilla, blisters or issues to the head, and full doses of opium every night, with a good nutritious diet—in the same way as periosteal nodes are known to do. When the pericranium is the seat of the disease, it is at once recognised by the presence of great tenderness, as well as unevenness to the touch; but when the dura mater is affected, this morbid condition is not so palpable; it is, however, evinced by unmistakable symptoms. The patients are often free from pain during the day, but at eight or nine o'clock at night the pain sets in, and is so agonizing, that they are willing to submit to any measure for relief. It lasts till three or four o'clock in the morning, followed by a profuse perspiration, when the patient gets some sleep. The intermittent character, and the time and duration of the paroxysms, are very remarkable. For some time the cerebral functions are not impaired, but at length the sufferer complains of a constant headache, though not so severe as during the paroxysm; he holds his head forward, with his brows knit; then follow occasionally epileptic fits, weakness of the lower limbs, paralysis, and the patient becomes greatly emaciated, despondent, and suffers colliquative perspirations." A post-mortem examination, made upon a sailor suffering from this disease, but deceased

from an accident, showed the inner table of the skull greatly thickened, and also the dura mater.

Dr. Goolden goes on to say, that while the more severe forms of the disease occur among sailors in the outports, a milder variety thereof is met with in ordinary life; and is, he believes, the cause of many distressing headaches, ultimately leading to epilepsy and paralysis, or, at all events, reducing the sufferer to a state of extreme debility. These cases are marked by headache, having its regular nightly paroxysms, morning perspirations, and gradual emaciation. The patients have mostly been treated for dyspepsia, rheumatism, gout, neuralgia, brow-ague, and often for phthisis. The peculiar expression of the countenance, and the pain and wakefulness during the first part of the night have shown the true nature of the disorder. A blister to the head, opium at night, and iodide of potassium and sarsaparilla during the day, have dissipated all the symptoms, and the patients have returned to their usual occupations. After this, some have had no recurrence of the attack; others are subject to relapses after various intervals, but are always relieved by the same remedies; others are attacked by periostitis in its more generally recognised form; others are relieved only so long as they continue to take the iodide of potassium.

He considers this disease, periosteal disease, or periosteal headache, to be totally unconnected with specific poison. He rejects the term *periostitis*, be-

cause he thinks the periosteum is only affected secondarily, and that it is not always inflamed. Several cases are related to show its connexion with epilepsy and paralysis. From the following laws or deductions which he draws from the results of his clinical observations, it would appear that he refers the occurrence of this disease, in a great measure, to the morbid influence of mercury on the constitution. He says—

“1. There is a morbid condition of the human body, giving rise to congestion of the periosteum, including the dura mater, with deposits of earthy matter between the membrane and the bone.

“2. This morbid condition is properly a specific disease existing in certain constitutions, which may either remain latent, or be called into action by external influences.

“3. These influences are mercury, purpura, fevers, or any cause which depresses the vital force or germ-life, and especially exposure to cold, damp, and absence of sun-light.

“4. Iodide of potassium has a specific influence in arresting the diseased action, but not of curing the morbid diathesis, which is always liable again to become active whenever the vital force is lowered.

“5. There are some constitutions which take on this diseased action readily after a very small quantity of any mercurial preparation has been administered. Nor is there any influence so powerful in its production as mercury, (a reason for its having

been so often regarded as a symptom of secondary disease.)

“ 6. The disease, in its state of activity, is indicated by local pain and wakefulness, commencing for the most part from eight to ten every evening; towards morning the pain abates, and is succeeded by perspiration; it is attended with gradual emaciation. The period of the commencement of the paroxysm is remarkable, and a good index of the nature of the complaint, but I have cases recorded where patients have been awakened from their sleep by the paroxysm at a much later time, and I have two well-marked cases, where it commenced between eight and nine in the morning; one of these is now under treatment. She lives at Woolwich, and had been treated for brow-ague; quinine, steel, and emetics, as well as aconite as an external application, had been tried without relief, ague prevailing greatly in that locality. Profiting by the failure of former treatment, which I might otherwise have adopted myself, I gave the iodide of potassium, with some mistrust in the result; but the very marked relief, after seven months of constant suffering, has confirmed my diagnosis. The exceptions are sufficiently numerous to prove that the exact time of the accession of the paroxysm is an accident, rather than a property, of periosteal disease, though sufficiently frequent to be of great practical value, and therefore, I say, ‘commencing, for the most part, from eight till ten every evening.’

“ 7. The locality of its development is very uncertain, but may be, wherever the periosteal membrane extends, whether over bone or cartilage, dependent upon some variable predisposing causes. The most frequent localities are the cuticular surface of the tibia, of the ulna, the cranial bones, the sternum, clavicle, ribs, and cartilages, the crest of the ilium, but very frequently in other less obvious situations.

“ 8. During the paroxysm the periosteum is greatly congested, and very sensitive, a deposit of bony matter taking place at each paroxysm.”

After making some general remarks on the diagnosis of periosteal disease, as he terms it, when it affects the membrane covering the larger bones and joints, and the impossibility of affording permanent relief, unless in addition to the use of counter-irritants, the iodide of potassium be given internally, Dr. Goolden makes a statement which serves to show the connexion of this disease with gout, (and with rheumatism, also, as I firmly believe,) although he does not seem inclined to admit such an origin or cause, and of course, is still less likely to consider that this disease has any relation with rheumatism, although the antecedent facts, and the general history of the disease, as recorded in its cases, would tend to show the contrary. He says,—

“ I must also refer to some painful swellings of the tarsal and metatarsal, as well as carpal and metacarpal, bones, often observed to remain after

attacks of gout, when all active signs of gout have subsided,—and I believe sometimes mistaken for gout,—and to the known success of the iodide of potassium in relieving the pain. These swellings of the fingers and wrists are very different from chalk-stone deposits, though they disfigure the hands. They are very common in advanced life, and then they rarely subside so as entirely to restore symmetry of form. But the same observation holds good in all other forms of periosteal deposit; that is to say, although the activity of the disease may be arrested by iodide of potassium and blisters, the absorption of earthy matter in old age is much more difficult; the pain will subside, but the tibia and frontal bone still retain the swelling and unevenness.

“ But the most obscure cases of periosteal disease are those which affect the dura mater, to which I have already alluded. Of these, I have recorded

12 cases of Epilepsy and nightly headache.

3 „ Epilepsy and paralysis.

1 „ Paralysis.

5 „ Facial neuralgia.

73 „ { Headache, occurring in nightly
paroxysms without nodes.

Uncertain, { Headache, with development of
but in a { the disease in other situations,
very large { as in nodes, or in disease of the
proportion, { shoulders.

“ The duration of the disease when relief was sought, varied from three weeks to more than three years. The nightly paroxysms have always yielded to the iodide of potassium, though I have been obliged to use opium when the patients seemed exhausted by want of rest, and applied blisters to the head when there was pain between the paroxysms. When that treatment has not been successful, I have not included those cases in my reckoning, as they are few, and I have had good reason for believing that other causes than periosteal disease were in operation.

“ There is no reason to reject the idea that other morbid forces may co-operate with periosteal disease in producing anomalous and unusual results. Suppuration and exostosis are not the usual results of periosteal disease in otherwise healthy subjects, but they are not of unfrequent occurrence in the strumous, etc. One of the most remarkable characters of the pure periosteal disease appears to be the amount of nodal deposit that may take place during the activity of the disease, and its absorption under appropriate remedies, though the power of absorption is less perfect as age advances. When these deposits take place within the cranium, it can hardly be otherwise than that the cerebral functions should occasionally be interfered with. Experience shows that they produce the effects of pressure and irritation, under some circumstances

only which are not quite determined—probably when the deposit takes place at the base of the brain, or at some particular points, as on the sphenoid or petrous portion of the temporal bone; but it also shows that deposits may and do take place within the cranium without interfering with the functions of the brain; that the arachnoid and pia mater remain healthy when the dura mater is in a state of disease; and that this state of disease is common, specific, recognisable, and remedial: and it remains for the experience of others to test the truth of my conclusions.”

With respect to the treatment, the plan principally recommended consists in the internal administration of the iodide of potassium with the compound decoction of sarsaparilla, in carefully regulated doses, according to the intensity of the symptoms, and the character of the patient's constitution, the exhibition of opium, as it may be required, and the external application of blisters. But this plan does not entirely exhaust the resources of our therapeia; there are peculiarities or idiosyncrasies connected with every variety of constitution, and the remedy that will cure a disease in one patient will utterly fail in another, or may even exasperate it, and make it a thousand times worse than before. To distinguish and diagnose correctly these variations constitutes the skill of the true physician, which is shown quite as much in thus ascertaining the characters

of the constitution, as in diagnosing the differences of disease. The nature of a disease having been correctly ascertained and settled, an empiric could prescribe for it, if the same remedies would suit all cases; but nature has so constituted man, that such is not the case, and the same disorder may and does require for its treatment, not only different remedies in different persons, but even a great and manifest difference of treatment in the same person at different times, according as he may be strong or debilitated, and according as the seasons and their vicissitudes, easterly or southern winds, and warmth, moisture, dryness, or cold, exert a greater or less amount of influence on his frame.

We have accordingly several other modes suggested, according to which this periosteal malady may be more or less successfully treated; that which we have already spoken of being considered the most valuable.

No more valuable remedy has been introduced into medicine than the iodide of potassium, but its precise value is scarcely yet generally recognised. Some practitioners give it in eight-grain doses, three times a day; sometimes with calomel or blue-pill, and colchicum; others never venture beyond two grains, and even then fear the results; yet no one ventures to dispute its almost general efficacy in nodal periostitis. The very large doses that were exhibited by Dr. Elliotson, in the year 1832, must be

regarded as one of the many valuable experiments for which we are indebted to that enterprising investigator, but which rather tend to show what quantity may be given, under certain circumstances, without mischief, than what is the appropriate quantity for a dose, in order to obtain its specific effect. "As far as I can draw any inference from my own cases," Dr. Goolden says, "I should say that the smaller doses produce the specific effect quite as soon as the larger; and I have often known two-grain doses act readily on the system, when larger doses have failed; but it is necessary to combine the salt with the liquor potassæ, as the presence of any acid in the stomach will decompose the salt, and the free iodine will then be very likely to act as an irritant. Indeed I have not unfrequently found, that patients who had been trying the iodide of potassium, and obliged to discontinue it, have subsequently borne it very well in combination with the fixed alkali. I may also observe, that it is not tolerated where there is any considerable gastric irritation, as indicated by a foul tongue, dry skin, precordial pains after food, &c., attended with acid eructations, and especially where the urine is turbid with the lithates or lithic acid; and yet we may have all these, as well as periosteal nodes, to contend with. The medicine, again, is never well borne during the active stages of gout and rheumatism; nevertheless, it is often very useful in relieving

the pains which still persist after all constitutional traces of specific disease have subsided. It is therefore necessary to relieve the dyspeptic symptoms by appropriate remedies, before using the iodide of potassium; or the failure must not be attributed to the inefficiency of the salt. The fact that the medicine disagrees with the patient is soon detected by an excessively nauseous, metallic taste in the mouth, before the gums are affected, or the catarrhal symptoms are so severe as to oblige its discontinuance; when that taste is very distressing, the salt rarely produces any beneficial effect. Under such circumstances, the periosteal disease, (if not previously in existence, the medicine being given to remove the sequelæ of some other malady,) may be induced by the peculiar action of the drug on some idiosyncrasies, just as mercury, administered as a specific, may excite a peculiar disease which has been termed "the mercurial," and which is very distressing in its symptoms and consequences. Of both these maladies many examples could be given, were it necessary and right to do so, but such would be foreign to our present purpose.

Many years ago, indeed as far back as 1812, Sir Ph. Crampton, of Dublin, described in the first volume of the *Dublin Hospital Reports*, a form of periostitis* unconnected with a specific morbid poison, which he treated by the internal exhibition of blue pill,

* See *ante* p. 133.

pushed so as slightly to affect the mouth, and especially by the division of the inflamed and stretched periosteum. At that date the utility of iodine and its salt, the iodide of potassium, was unknown; indeed, iodine itself had only been discovered the previous year by M. Courtois, and had not then been brought into medicinal use. Sir Ph. Crampton's plan of treatment has succeeded where the iodide has failed to effect a cure. It is principally of service in those cases where the periosteal nodes have been excited by the administration of the iodide of potassium, with or without sarsaparilla, for the relief of other diseases, such as skin-diseases, &c.

Rheumatism and gout have already been mentioned as favouring the occurrence of this affection. When either of these is causative of the disease, we can hardly anticipate that mercury can be of service, as they depend, as has been already shown, on the presence of a morbid poison in the blood; and the action of mercury on the system, when carried to its full extent, is somewhat destructive, rather than constructive, of the healthy fabric of the circulating medium, so that its administration, other than as a purgative or depurative, is to be objected to under such circumstances. The same may be said, though in a minor degree, of the iodide of potassium. In old chronic cases of rheumatic periosteal nodes, some relief may be experienced from the use of that salt; but in the majority of instances, more espe-

cially in those in which the disease is of more recent origin, and where it is, comparatively at least, of considerable severity, we must seek for other remedies to alleviate and remove the pains, and to cure the disease. These we shall find in colchicum, guaiacum, quinine, steel in the form of carbonate, or of steel wine, the citrate of iron, the ammonio-citrate of iron and quinine, &c., or in combinations of these together, or with other drugs, according to the recent origin or chronic stage of the disease, the state of the constitution, &c. &c. Dr. Goolden does not mention the influence of colchicum in these cases; but there cannot be a doubt but that it may be very usefully combined with the salt of iodine, already mentioned, and administered in small and regular doses, but not so as to exert any violent or drastic action, either on the bowels or the kidneys. Of the effects of colchicum in the treatment of rheumatic and gouty affections, we have, however, spoken so largely elsewhere, as to preclude any necessity for dilating on them now, so that we may proceed at once to consider the utility of guaiacum in such cases—a remedy which is certainly not appreciated by the profession according to its merits. On this point Dr. Goolden says:—

“There is one more remedy which I must not omit to mention—that is, guaiacum. It is by no means universally applicable, but in some cases it is most decidedly useful, especially where there is

a cold dry surface, and languid pulse, and where the iodide too readily produces catarrh. Lest I should confound such cases with the catarrhal rheumatism affecting the head or other parts, I have been cautious to draw my inferences only from cases in which tibial or other easily recognised nodes are seen and felt. It is still possible that frequent catarrhal affections of the mucous surfaces of the nose and forehead, together with their depressing influence, may not only determine the neighbourhood of periosteal nodes, but prevent them from readily yielding to specific remedies; and it may be on that account that the guaiacum is found so serviceable in particular cases; for it is a practical fact, not half so generally known as it deserves to be, that the common cold in the head, however severe, may be at once relieved by guaiacum. These are cases in which a physician is not often consulted; but in my own person, and in my family, and the circle of my intimate acquaintance, I have for a long time had recourse to the remedy with invariable success."

I can fully confirm this statement respecting guaiacum in every respect; it is one of our most valuable medicines.

Quinine, and the other vegetable tonics, and the preparations of steel, are of service in those cases where the patient is decidedly anemic; they may be given alone, or in combination with other drugs, which exert a more direct, or more special influence

on the disease. Steel is principally indicated in those instances of the affection which are accompanied by a neuralgic complaint of the face and side of the head, its administration having been preceded by a full course of colchicum in small but regularly repeated doses; in few cases of this disease is the utility of the meadow-saffron so marked, as in those in which neuralgia or tic douloureux is coëxistent with rheumatic periostitis.

“The carbonate of iron was considered to have a kind of specific action in such neuralgic cases, and was prescribed in spoonful; but I think it a clumsy way of giving medicine, it being nearly an insoluble powder, and any quantity, of course, that may be given will pass off by the bowels. The more soluble salts are certainly the most effective, and none more so, or more agreeable, than the vinum ferri as prepared according to a late pharmacopœia; but the sulphate or hydrochlorate, or the ammoniated tincture, will answer equally well. The chalybeate waters are even more certain in their effects than any of our medicinal potions, and this is a fact not so generally recognised as it should be. It matters not whether they be natural or artificial. Small doses largely diluted are more readily absorbed and diffused than larger and more concentrated doses; and I am sure the experience of all practitioners who have had the opportunity of observing it, will accord with my own in this respect, that some persons who have taken the pharmaceutical preparations with little or

no effect, have been unable to persevere in the use of the natural ferruginous waters, from their immediately affecting the head.

“The anemic appearances usually observed in periosteal disease would seem to point naturally to iron preparations, and though they do not seem directly to control the morbid action going on during the activity of nodal deposit, as both iodide of potassium and mercury, in their appropriate cases, are observed to do, yet their indirect influence is very decided, and when the acute symptoms are relieved, it is most desirable to alternate the iodide of potassium with iron preparations; and there is one form of iron which is especially applicable—viz., the iodide, which is best given in the form of syrup.”

Colchicum would constitute, in my opinion, a far better antecedent drug in the treatment of these periosteal cases, than would the iodide of potassium. I have not that faith in the latter drug that many of my professional brethren profess, having known it fail in many cases, where I felt assured that the preparation used was perfectly genuine and free from adulteration, and having subsequently, and also in similar cases, succeeded in affording relief, and in effecting a cure, by means of colchicum, given internally, and also used externally, in the form of lotion or embrocation. In cases complicated with neuralgia I consider it to be invaluable.

SECTION THE SECOND.

ARTHRITIC AFFECTIONS OF THE HEAD AND EAR.

GENERAL REMARKS ON THE CONNEXION BETWEEN GOUT AND RHEUMATISM.

BOTH these diseases are now regarded by the profession as blood diseases, occurring in disordered conditions of the system dependent on an altered state of the constituents of the circulating fluid. This opinion as to the predisposing cause of gout and rheumatism, has long been held by the profession in the three kingdoms and on the continent; but the nature of the change, although recent investigations and discoveries, by the aid of chemistry and of the microscope, have done much to settle the question, has not yet been fully determined. The various theories that have been brought forward from time to time have been occasionally based upon a solitary fact, or upon the apparent result of a few cases more or less carefully watched and

noted,—cases which are very far from being sufficient to found a rule or law in medicine upon, although readily considered enough to furnish a base upon which a superstructure of theory may be raised. These respective theories, which present more or less of *vraisemblance*, may in general be passed by without further remark, nevertheless it is interesting to notice the gradual progress made in the course of years by the one special theory, by which these diseases are referred to an altered condition of the blood.

As has been already remarked, the belief in the blood origin of rheumatism and gout is not of recent date; whenever the humoral pathology was paramount in the profession, and the fluids of the human system were carefully investigated to discover in them the causes of all diseases, so far at least as the limited extent of science would permit the inquiries and discoveries to be pushed, the doctrine of the humoral origin of these diseases was almost universally believed in. The blood, however, was not then regarded as the principal or sole seat of the diseased alterations which induced the difference in the sensations that were experienced, and the modifications of functional action tending to structural disorganization, constituting the respective changes in the frame, known by the names of rheumatism, gout, or any other disease under consideration. All the fluids of the body, with a

great appearance of good sense and of sound judgment, were judged to be capable of taking on a diseased action, and of preventing the performance of the organic functions, so as to induce structural disease, and the two maladies especially under our notice, were, as a consequence of the prevalence of this dogma, supposed to depend on an alteration in the constituent principles of some one or other of these fluids, the true one not having been fully and clearly ascertained. Bayle says, that none of the numerous theories brought forward up to his time can afford a satisfactory explanation of the origin of these diseases. He accordingly advances an opinion partaking strongly of the view already mentioned, for he regards their predisposing cause to be "an alteration of some one of the humours, as the result of a particular morbid fluid produced under the influence of certain causes, and circulating with the other fluids of the economy." This same *materies morbi*, or morbid matter circulating in the system, as causative of disease, formerly played a very useful part in pathology, as it greatly aided practitioners when at a loss to assign an absolute cause for the occurrence of any malady—a *materies morbi* floating in the system was as excellent and satisfactory a conclusion, as that which became fashionable afterwards, and was known by the name "nervous." As patients, whose diseases at a subsequent period could not be traced to a certain

and satisfactory source, were supposed to abound in nerves, and to have those said nerves in a greater or less degree of derangement, so in former days patients in whom the discovery of the predisposing causes of disease was equally intractable, received the gratifying explanation that a materies morbi had been floating about their economy, and had finally selected a particular part of the body for its residence.

These crude and ill-digested theories continued to prevail among the profession for a long time, not, however, without more just views being entertained by some of the more erudite practitioners, some of whom will enjoy a world-wide reputation while the world itself shall last. Sydenham, for instance, located this materies morbi, or "peccant matter," as he termed it, in the circulating fluid, and probably had some idea of the real nature of the foreign and injurious matter by which the composition of the blood was adulterated. So acute an observer could hardly have failed to notice the peculiar character of the perspiration, and of the lithic deposits in rheumatism, which, with the tophi or chalk-stones in gout, must have led him to the brink of discovery, with respect to the nature of the peccant matter in the blood, although he ultimately failed to ascertain it completely. Haller, it is stated, absolutely saw the matter of chalk-stones in

the blood of a gouty patient, and other instances have been mentioned of a similar character.

The absolute discovery of the chemical characters of this peccant humour, and of the distinction between rheumatism and gout, apparent or real, as far as chemistry is concerned, was reserved for the present day, when, aided perhaps by the light thrown upon the subject by other distinguished physiologists and pathologists, Dr. Garrod, after some careful chemical and microscopic research, ascertained that the morbid element in the blood is uric acid, which exists in that fluid to a greater degree in cases of gout than in rheumatism, but is present in it in both diseases, and can be crystallized from it in the shape of urate of soda, the urine during the prevalence of either disease containing but little, if any, uric acid, either alone or in combination. In gout a small portion of urea even may be detected in the blood. These views explain and reconcile the principal theories, and all the phenomena of resemblance and of distinction between the two diseases. They have been further supported by certain experiments instituted by Dr. Bence Jones, a gentleman who has devoted much time and labour to the elucidation of the phenomena of animal chemistry, and whose support therefore adds great weight to Dr. Garrod's theory.

Rheumatism, after having been long regarded as one of the humoral diseases, and then for a cer-

tain time referred to a class of those dependent on changes in the solids of the body, is admitted by the pathologists of the present day in the category of blood diseases; and Sydenham is of opinion that while the characters indicative of gout and rheumatism show that these diseases are essentially distinct, nevertheless, there is a relationship in connexion between them to a certain extent, so that the one may blend into and be complicated with the other. Although I shall have occasion in the course of this essay to give examples of the near alliance of these diseased actions, and shall show that the treatment to be adopted for both is not very different in many essential points; nevertheless, the confounding together of gout and rheumatism as one condition of disease, an error even still occasionally committed, although, perhaps, much more rarely than heretofore, demonstrates to my mind a remarkable inaccuracy of observation, for although they have occasionally some local symptoms in common, we see that in a genuine example of either disease, whether acute or chronic, there is both constitutionally and locally the most obvious difference of character. The seat of rheumatism, as has been already remarked, is generally in the fibrous textures of the body, and most commonly the tendinous structures are the parts affected. It is an essential character of rheumatic inflammation quickly to change its seat, and the abatement of inflammation

and pain in one part does but prepare the body for the same symptoms in some new situation. This transference or alternation sometimes takes place with surprising rapidity. The smaller toes and fingers are the parts least liable to this inflammation, but in a severe attack, scarcely any portion of the tendinous and ligamentous structure is spared. Gout, on the other hand, unless genuine metastatic action ensues, is not a transferable disease; it remains in the organ or part originally attacked, and there commits the ravages essential to the disease. It is true that there are varieties of gout, known by the name of *retrocedent* and *metastatic*, but in the great majority of instances, while it is an essential characteristic of rheumatism to wander about the human frame, attacking first one part or structure and then another, several parts of the body being affected either consentaneously or consecutively, gout remains in the part originally disordered, and there runs through the usual course of the disease. The retrocedence and metastasis of gout depend in general on some special cause independent of the disease itself, excited by some peculiarity, irregularity, or excess in diet, mode of living, emotions of the mind, or by some other influence acting directly or indirectly on the mind or body.

Dr. Todd, when speaking of the rheumatic diathesis, or that condition of system in which the symptoms clearly indicate the presence of the mor-

bid element in the blood, thus expresses his views of the nature and causes of the disease in question: he observes, that, for the sake of accuracy, the term 'rheumatism' is too vague, and he therefore uses that of rheumatic fever; he employs the term in preference because the word fever is more in accordance with that view of the pathology of the disease which he believes to be correct, whilst the other term seems to point to the local affection as primary. The articular swellings are the result of the same cause which gives rise to the febrile movement, viz., the presence in the blood of a particular morbid element, the complete elimination of which is necessary to the perfect cure of the disease.

If this view of the pathology be correct, it is obvious that we should use no other term to denote this disease than that of rheumatic fever.

"Moreover, nothing can be less satisfactory than the manner in which the word rheumatism is employed, both popularly and by medical writers. It is applied to pains of the vaguest description, occurring in or near joints, or elsewhere, if only no other obvious cause for them be discoverable. And this use, or rather abuse of the word, has given rise to subdivisions, which have no foundation in an accurate pathological knowledge, such as muscular rheumatism, visceral rheumatism, rheumatism of the uterus, of the periosteum, &c.

"These terms may or may not be correct; but I

apprehend there are few practical physicians who will not agree with me in admitting, that little or nothing is known of the real nature of the affections they are intended to denote, and that the use of names in so vague a manner is more calculated to be hurtful than beneficial to medical science.

“The word rheumatism had its origin in an early period of the humoral pathology, and in views of the nature of the disease which we do not advocate now, but it may be advantageously retained in our nosological nomenclature, as indicating that the real essence of the disease is to be sought for in alterations of the fluids.

“I propose to direct attention to those points in the natural history of this disease which bear upon my argument.

“And first, let me remark, that, as in gout, so also in reference to this disease, the constitution is liable to become modified under the influence of cold, imperfect nutrition or defective assimilation, so as to give rise to what may be called the rheumatic diathesis. This state, as far as my observation enables me to judge, occurs chiefly in children and persons under the age of thirty; rarely beyond that period, excepting as the consequence of the existence of the diathesis in early life.

“It is characterized by the existence of a febrile state of the system, variously developed in different individuals, and indicated by quickness of circula-

tion, occasional exacerbations evinced by heat of skin and perspirations, more or less profuse; the perspirations having a sour odour. The urine is prone to the development of lithic deposits, more or less coloured. These symptoms, however, often escape the patient's observation, (although readily detected by the attentive practitioner,) and the chief complaint is, of pains in the joints,—not always occasioning swellings or enlargement, but often impeding motion; pains also in the muscles, or in the course of the nerves of the limbs; not stationary, but one while affecting one limb or joint, and again another. The real nature of these pains is, I believe, often overlooked; and when they occur in children, they are frequently regarded by nurses and others as due to the rapid growth of the child, and are popularly called 'growing pains.'

"This diathesis is also further distinguished by evident marks of imperfect or deranged nutrition. There is great pallor of the skin, and a cachectic appearance; a greenish or yellowish hue tinges the surface, and the red particles of the blood are deficient; the patient is thin, indisposed for business or amusement; the appetite fails, and some thirst is felt; the patient is keenly sensitive to vicissitudes of temperature. I am not aware that any cutaneous disease occurs in connexion with this diathesis, as there certainly does with that of gout.

"The existence of a peculiar diathesis of the rheu-

matic kind, limited to the earlier periods of life, the many points of resemblance and analogy between this disease and gout, in all their forms and varieties, (so many, indeed, and so striking, that the diagnosis is often a matter of great difficulty, and frequently one of doubt, so that Chomel has gone so far as to affirm the identity of the two maladies,*) the liability to the recurrence of the disease to which those who have been once attacked are exposed; the hereditary nature of the malady,—all these points are strongly in favour of the opinion that in this disease general nutrition is disturbed, not by mere local disease, nor by an impression on the nervous system, but by the development of a morbid matter in the blood, which visits every part to which that fluid is distributed, but which is attracted by some textures much more than by others.

“I admit, however, that the fibrous system is extensively affected in both the gouty and rheumatic diseases. But it is a very partial and erroneous view, which would limit the affected tissues to those of the fibrous class. The textures which are most frequently affected in these diseases are, the white fibrous, the synovial, the cartilaginous, the cuta-

* Sydenham says, “This disease [rheumatism], when separate from the fever, is often called *arthritis* [*gout*]. Nevertheless, it differs essentially from that disease, as every one knows who knows the two diseases well.”

neous, the serous, and the osseous. And it is not unimportant to remark, that all these tissues belong to the gelatinous and albuminous classes, and are chiefly composed of those proximate elements, from the decomposition of which, in the wear of the system, those great secondary organic compounds, urea and lithic acid, and lactic acid, are produced. It is perfectly consistent with sound theory to suppose that these tissues are capable of exerting a special attraction on the gouty or rheumatic element, and this quite irrespectively of any anatomical explanation which might be offered.

“I now proceed to inquire into the nature of the morbid matter, which I think we may infer to be the cause of the rheumatic diathesis, as well as of rheumatic fever.

“This is even a more difficult inquiry than that regarding the matter of gout. In the latter disease we have some guide in the actual excretion of a peculiar substance, lithate of soda, from the diseased parts. But there is nothing of this kind in the disease which we are now discussing.

“The remarkable resemblance, however, between the two diseases, may justify our concluding, that a certain similarity of composition may exist between the morbid matter of each. By contrasting the characters of the excretions in both, and eliminating such features of the gouty ones as are not met with in the rheumatic, we may arrive at some

approximation to the true nature of the rheumatic matter. The two most remarkable excretions in the rheumatic diathesis, or fever, are the urine and the sweat. Both of these are distinguished by the presence of an unusual quantity of free acid. The urine contains a large proportion of lithic acid, and those highly coloured deposits take place in it, which Dr. Prout supposes to arise from the formation of purpurates. The lithic acid diathesis, however, is by no means so strongly marked in the rheumatic as in the gouty state; and these excessive deposits of lithates are more to be regarded as belonging to the paroxysms, than as constant concomitants of the diathesis. The high colour of these deposits is more marked in rheumatism than in gout. The sweat of rheumatism is much more copious than that of gout, and is evidently much more acid. In the latter disease, indeed, sweating is generally absent. Lithate of soda is never formed in the rheumatic paroxysm, nor in the diathesis,—and those derangements in the biliary system, which so often occur in gout, are not so apparent in rheumatism.”

Dr. Todd, by analysis of symptoms, and by reasoning on their analogy in the two diseases, thus arrives at nearly the same conclusions come to by Dr. Garrod and by Dr. Bence Jones, from direct experiments in chemistry, and with the microscope. We have seen that the last-named

physicians have shown and demonstrated the actual existence of uric and lactic acids in the blood, together with urea, and that in much larger quantities in gout than in rheumatism; and this appears to be almost identical with the results obtained by Dr. Todd, who seems to be of opinion that the uric acid diathesis is constant in gout, but only occasional or paroxysmal in rheumatism.

It has been stated that in most disorders of an inflammatory type uric acid is largely secreted; this is particularly the case in the gouty diathesis, but with this remarkable difference, that whereas, in other disorders of a similar character, such as rheumatism, it is found in combination with ammonia, in gout it is united with soda. This salt, the urate of soda, which assumes the appearance of a white chalky powder, is almost as insoluble as lithic acid itself, and is therefore very rarely discovered in the urine; but, on the contrary, it is frequently found deposited in the joints and in other parts in a solid form; and, indeed, those peculiar concretions, which, in the gouty subject, are known by the name of chalk-stones, have been proved, by chemical analysis, to be composed of this substance.

If this, then, be the fact, and of this there can be no doubt, the exciting cause and morbid phenomena of gout may, I think, be easily explained. In the first place, as has been mentioned already,

uric acid is always abundantly secreted in the gouty diathesis ; but, from some cause not yet understood, this acid, instead of combining, as it usually does, with the ammonia of the metamorphosed tissue, and then, by its solubility, readily passing with the urine through the kidneys, unites with the soda of the blood, and thereby forms a salt very difficult of solution,—indeed, generally insoluble in the human fluids; urate of soda, therefore, circulates in the system suspended, not dissolved, in the blood, as has been clearly demonstrated by the lucid experiments made by Dr. Garrod and Dr. Bence Jones; and, being a morbid or abnormal product of a highly irritating nature, causes all those uneasy feelings and anomalous sensations so well known to the gouty subject: as it increases in quantity, the system would naturally feel the importance of getting rid of a matter so injurious to its healthy action, and, not being able to expel it by either of the usual outlets, would adopt the only alternative left,—that of depositing it in some part of the body out of the way of its operations, and farther removed from the centre of vitality; hence the extreme joints of the feet and hands are generally first affected.

In this essay it is not my intention to give any extended account of the history of gout as it attacks the body generally; yet as, for the purpose of clearly understanding the nature of any disease, it

is essentially necessary to precede it by some short view, history, or sketch of the symptoms, I propose to notice it as briefly as possible, my object being, to keep in view the disease as it affects the head, and, as a consequence, the ears, producing the invariable distressing noises which, if not early attended to, remain as a permanent affliction. I shall have occasion to show, moreover, that these organs are not only attacked secondarily, or by retrocedent gout, but, like the eye,* that it occurs very frequently as a primary disease in them.

* The eye is among the parts which become secondarily affected in gout. This organ, like the others which have been enumerated, is affected only after several attacks of the disease in other parts, when the diathesis is thoroughly established. It does not appear that the effects of this disease show themselves only in one of the various textures of the eye; it attacks most of them in succession, and ultimately destroys vision. The conjunctiva and the sclerotica are the first affected, and afterwards the choroid and iris, the latter of which forms adhesions to the neighbouring parts, and thus intercepts the rays of light. Perhaps, also, the retina suffers; indeed we can scarcely conceive any serious or long-continued affection of the sclerotica and choroid coats of the eye, without the other textures undergoing considerable change. It would seem that the eye may be primarily affected by gout: of this Dr. Wardrop relates a remarkable example. A gentleman had long suffered from arthritic inflammation of the eye, accompanied by some pain in the head: Dr. Wardrop advised him to apply sinapisms to each foot; and being a man of great fortitude, he allowed them to remain on until so violent an inflammation ensued, that it terminated in ulceration of the skin, but the pain in his eyes and head was completely relieved. Some years afterwards, on Dr. Wardrop inquiring if he had ever had

Dr. Gairdner, when speaking of the frequency of the gouty diathesis, observes, that it is often very perfectly developed in individuals who never see its local manifestations. "I am convinced," he says, "that the strumous is not more frequently met with than the gouty habit." Sir B. C.

any return of the inflammation in his eye, he answered with a smile, that the sinapisms had completely removed it.

"In persons of gouty habit, inflammation often attacks the iris, and is usually of an acute character. Uneasy sensations are experienced in the neighbourhood of the eye, pains occur about the forehead, brow, and orbit, extending to the side of the head. Redness of the sclerotic comes on with pain of the eye, intolerance of light, and lachrymation. It has been observed by the Germans, that in consequence of the repeated motions of the lids, which become red and a little swelled, a small quantity of white froth or foam collects in their edges, particularly towards the angles. With increase of the local symptoms, the iris is now obviously involved; it becomes dull and discoloured, the pupil is contracted, but preserves its central situation, and it is fixed, at one or more points, to the capsule. The complaint is attended with headache and feverish disturbance of the system.

"The red zone round the cornea does not advance to the very edge of the latter, but a narrow white ring is left between them. This white border is often partial, being observed more especially towards the angles of the eye. It has been remarked by the Germans, that the color of the zone in arthritic iritis is more dull than in the other forms of the affection; that it is sometimes even livid, and that the vessels exhibit occasionally a kind of varicose enlargement. After a violent attack of this kind, with great diminution of sight, the symptoms subside, the eye recovers, and vision is completely restored, the iris being connected to the capsule by adhesions of a white colour. The inflammation returns again and

Brodie entirely agrees with this view, and observes, that a large proportion of the persons that consult him for local diseases are in reality under the influ-

again, and we are surprised to see the eyes recovering so completely as they do after these repeated attacks.

“A gentleman, whom I saw labouring under severe arthritic iritis, told me that his eyes had been inflamed fourteen times, yet vision was unimpaired, though there were in each eye adhesions connecting nearly the whole pupillary border to the capsule. On each attack fresh effusion takes place; the pupil is more and more contracted, and at last filled entirely with an opaque adventitious membrane. Even now, although sight is destroyed, the texture of the iris is in many cases but little altered. Sometimes one violent attack closes the pupil, or greatly contracts and fills it with a densely opaque plug. Sometimes gouty inflammation, when severe and long-continued, causes complete disorganization, with puckering and tubercular projection of the iris, and extinction of sight.”—Lawrence, *opus cit.* p. 319.

Lawrence also describes a much more serious gouty inflammation of the eye than the arthritic iritis, in which all the internal structures of the organ are involved. It occurs in the gouty, or in persons of that impaired constitution and general health, which are analogous to the arthritic state.

The parts affected are the choroid, iris, retina, vitreous humour, lens, and its capsule; and secondarily, the sclerotica and cornea. It ends in loss of sight, with a dilated pupil and opaque lens. Sometimes the latter change does not occur, but there is deep-seated green discoloration of the pupil—that is, the appearance called glaucoma. Some of the Germans call this disease *ophthalmitis arthritica*, because it attacks gouty persons, and involves the whole globe. It is not necessary to describe the symptoms of this malady, for which we must refer to the pages of Lawrence’s excellent work (pp. 352-355), but we may add, that Mr. Lawrence states, “that

ence of the gouty poison in the system, though they may not suffer from any complaint which would commonly be considered as of a gouty nature.*

The predisposition to gout may be engendered also, and acquired by certain habits of life, by over-indulgence in the passions, and, in a less degree probably, by want of exercise, and by sedentary occupations. Of this we have the strongest evidence in the remarkable immunity from the disease enjoyed by the working classes. Physicians have recognised three forms of this diseased action, the acute, the chronic, and the retrocedent, or misplaced gout. It is the latter of these that more immediately concerns us in this essay, and more particularly when it seizes the head and ear. When

the chief cause of the affection is an unhealthy state of constitution; it takes place in gouty subjects, and in such as have had other forms of gout. We see it in elderly persons, always after the middle period of life; in those of full habit, of corpulent make, with the bloated, red, purple, and veined faces, that denote habits of indulgence." All these facts clearly show the dependence of both these inflammatory conditions of the eye on the presence of the arthritic poison in the blood.

* It has been long the fashion to regard the class of diseases to which we have especially devoted attention, and which come more under our notice, as belonging to one peculiar type—but in this case the contrary seems to be the rule—the ear, although very frequently the seat of this diseased action, is rarely regarded as liable to the influence of the toxic power of the gouty poison, and, indeed, it has scarcely been considered as in the least degree subject thereto.

this metastatic form of the gouty inflammation during its existence in the acute or chronic form, suddenly disappears externally, and shows itself as affecting some one or other of the internal organs, it may present under those circumstances symptoms such as follow. When in the height of a paroxysm, the stomach being attacked, the symptoms will be, exquisite pain, spasm, accompanied with sickness, a feeling of intense weight and coldness at the pit of the stomach, with extreme depression and low pulse; the attack then is acute, and runs a rapid course, bearing a relation to the previous state of the system. If the transference take place to the brain in its worst form, apoplexy is produced; and, in all probability, the case will end fatally. The head is sometimes affected with pain, and other distressing sensations in connexion with the gouty diathesis, even before the first occurrence of a paroxysm. Patients of a nervous temperament, previously to their first attack, complain much of oppression of the brain, affecting the powers of mind and the spirits, and occasionally suffer severely from headaches.

These cases of retrocedent or misplaced gout in the head and stomach are seldom fully relieved until an attack of the disease takes place in the extremities. It occurs mostly in persons of the nervous temperament, and it not uncommonly affects females. The recurrence of gout in the limbs relieves all these

symptoms. The head appears more liable to be affected in this form of the gouty diathesis than any other organ; and for this there is an apparent cause, viz., the greater sympathy subsisting between it and the parts liable to gout, and more particularly from the great tendency for determination of blood to the head in those who have been long subject to the gout; that the alimentary canal should occasionally become the seat of the retrocedent action might be expected, from the active sympathetic connexion so often subsisting between it and the extremities during the presence of the phenomena of gouty inflammation. The transference of diseases, or the superseding of one disease by another, generally denominated metastasis, a term which I have preserved and used throughout, though objected to by some writers as vague and unmeaning, affords matter deserving curious and important inquiry.

In every general view of the subject of metastasis, regard must be had to the influence of similarity of texture of the parts, whether continuous or otherwise, in determining these changes in the seat of morbid action. Though this similarity is obviously not indispensable, since some of the most remarkable instances of metastasis are independent of it, it doubtless is concerned in many cases of much interest in the history of disease,—particularly in the affections of the mucous and serous membranes. The disorders of the air passages, of the alimentary canal,

and of the skin, afford many illustrations to this effect; indicating also the effects of continuity of surface and texture; and they illustrate besides, in common with other organs, another very important fact respecting metastasis—viz., its frequent dependence on connexion of function between the parts which are the subject of such changes in the seat of disease.

The latter circumstance might perhaps have been inferred from theory alone; but it is confirmed as a fact in pathology, by exceedingly numerous, and very remarkable instances. We have many and striking examples of the fact in the urinary and generative systems, in the joints and muscular tissues, in the secretory organs, &c. And it may be to this principle that we shall eventually refer certain cases,—such as the singular metastases occasionally occurring in cynanche parotidea, which are wholly inexplicable according to the present state of our knowledge, yet definite enough to prove a specific cause, and to be the proper subject for future investigation.

Metastases, whether in the form of inflammation, congestion, or other morbid action, conjoined with, or dependent upon, morbid states of the blood, are certainly amongst the most extraordinary phenomena of disease. Without repeating details already given, I may refer generally to what has been said in former chapters, regarding these translations in gout, scrofula, and other constitutional

disorders, which, though they merely indicate various modes of development of the same cause of disease, come fairly under this category; and manifestly include many affections hitherto differently named, and ascribed to different causes. For, however varying in aspect or importance, we are not entitled to separate in principle those metastases which occur suddenly, from such as occupy a longer time in the transference of disordered action to another part. In each case the blood must be the medium of translation, and the difference of time is one merely of degree. This manner of regarding the subject is essential to the inquiry; and it will be found to confirm the inference, drawn from other sources, that the effects of a simple morbid matter present in the blood, may show themselves in forms greatly more varied than has yet been presumed in the theory of disease.

There are, however, other forms of gout besides those which show themselves in the usual situations, or the metastatic variety, which affects the head, the ear, the brain, or the stomach. In other words, the disease may remain latent in the system, not showing itself in any of the joints, but creating a great deal of discomfort, mischief, and suffering, and rendering its victims miserable and unfit to share in the ordinary occupations and pleasures of life.

“It is worthy of remark,” says Dr. Graves, that

“a predisposition to gout may lie dormant in the system during a long series of years. Of this I saw a remarkable instance in a lady, upwards of seventy years of age, when I first commenced my attendance on her. Her parents had been martyrs to gout, and the symptoms of which she chiefly complained were such as are often observed in gouty persons. Accordingly, I gave it as my opinion that she had a gouty diathesis. This opinion was not verified until she had attained to the age of eighty-two years, when she had a violent attack of gout in her right foot, and afterwards in her left. Dr. Neligan has furnished me with an illustrative example of this fact, in the case of the Hon. E. M., in whose family gout has long been a heir-loom. His first attack occurred when he was in his seventy-first year, and he died from the third, in about three months afterwards; his sister, also, was attacked with the disease, for the first time, in her sixty-fifth year, yet several members of his family, amongst others his only son, were martyrs to gout from their youth. A fact, I observed very lately, tends to corroborate the opinion, that the local inflammation of gout may be induced by debility: a gentleman, dying from long-continued diarrhea, combined with a dropsical tendency, was seized with podagra forty-eight hours before death.”

I, myself, know a singular instance of the hereditary character of this disease, and of its outbreak

at a particular age in the sufferers. The eldest of several brothers, a medical man, formerly in practice in this city, had a paroxysm of gout, for the first and only time in his life, in the forefinger of the right hand, when he was verging on the thirtieth year of his age. At precisely the same age, his eldest son, who is also in the practice of our profession, in the same locality, had a severe paroxysm of gout in the same hand.

That, however, has not been his sole attack; he subsequently became a martyr to this disease in its undeveloped form, the arthritic poison manifesting its influence in him in every part of the body, whilst the signs of the disease as affecting the head, the localization of the pain at the vertex, and at the brow, generally at the right side, the *tinnitus aurium*, or singing in the ears, with occasionally deep heavy *bourdonnements*, vertigo, or giddiness, heaviness of the head, with impairment of memory, and a not infrequent inability for mental application, are all signs indicative of the gouty diathesis, from which he is scarcely ever free, except when the disease fixes itself for a short time in one or more of the smaller joints, the outposts of the body,—when he enjoys a remarkable immunity from the pains and penalties to which he is at other times subject.

When we set about collecting phenomena or facts in regard to the living body, and especially when we have collected a large number—for, however

poor medical knowledge may be, regarded as a science, it is fortunately rich in facts—and proceed to throw them into some kind of arrangement, with a view to ascertain their collateral relations and dependencies, we are struck by the large number which obviously possess one character in common, as regards the situation in which they occur or in which they ultimately terminate—such being the case with the disease in question. We know it as occurring more frequently in some forms of disease than in others, and especially in those which are produced by atmospheric impressions, as in rheumatism. A rheumatic headache is usually caused by exposure to cold and humidity, or to currents of air; by uncovering the head when perspiring; by sleeping on a damp pillow; by the passage of air through a carriage-window; by sudden vicissitudes of temperature or of weather, especially by easterly or northerly winds. But a predisposition dependent on the rheumatic diathesis, or on disorder of the digestive organs, particularly on torpor of the liver, accumulations of bile in the bile passages, and collections of sordes in the intestinal canal, is often necessary to the production of this affection of the head or scalp.

The occurrence of tophi, or the concretions formed around and in the smaller joints in persons long subject to gout has been already shown to be dependent on an effort made by nature to get rid of

the "peccant matter" floating in and undissolved by the blood of the sufferers from this malady.

Physiologists will have no difficulty in conceiving the immense irritation that the deposition of a concrete earthy matter in the joints must produce in parts peculiarly smooth and hard in texture, and intended by nature to have free motion on their articular surfaces. Thus, no sooner is such a deposit made, than inflammation of a peculiar kind is set up; when, after a longer or shorter period, the absorbent vessels of the part are stimulated to increased action, and again decompose it. It now once more enters into the circulation, under new affinities, and becomes ultimately excreted in some more soluble form.*

The concretions which form in gouty habits are usually called chalk-stones; I shall continue to employ this term, although it is now ascertained that they do not consist, as was formerly supposed, of the phosphate, but of the urate of lime, that is, of uric

* The articular surfaces of joints composed of cartilage are parts which, in their healthy state, as might, *à priori*, be supposed, are endowed with but little vitality or sensibility; in the larger joints intended to bear the weight of the body, and subjected to concussion, as in jumping, hopping, &c., much sensibility to pain would mar their usefulness. But it is a curious fact, that when once such parts are subjected to inflammation, they become most painful. This will serve to explain why an acute attack of gout, affecting any joint by metastasis, should be so acutely painful and destructive to the organ attacked, if neglected, or an error be made in the diagnosis.

acid, which we have spoken of as the probable proximate cause of gout, when it exists in the blood, and of lime in combination with that acid. This has been ascertained by chemical analysis, and, taken with the preceding facts, may aid in explaining the nature and causes of gout in all its varieties. Further evidence in favour of this view is afforded by the fact, that during the decline of every fit of the gout, uric acid, or a salt consisting of the acid chemically combined with a base, generally ammonia, is largely deposited from the urine, and we also find that the use of alcalis and of other antacids, which have an evident influence in diminishing the formation of urea, and in causing its elimination, are, at the same time, among the best preventives of an attack of gout. All these facts tend greatly to show that the theory that gout is dependent on the presence of uric acid in the blood for its proximate cause, or at least that it is in some way connected therewith, if not absolutely demonstrated, is at all events far advanced on the road to direct and absolute proof.

In persons afflicted with gout, it sometimes happens that a white liquid is effused by the exhaling arteries into internal cavities. By degrees, the watery and serous particles are absorbed, leaving a substance which is at first soft and clayey, and afterwards becomes hard and friable.

This effusion occurs not only during fits of

gout, but likewise in the intervals, or intermissions; and as the extremities, particularly the hands and feet, are the principal seats of gout, it is on their smaller joints that the greatest accumulation of the chalk takes place. Though this process is usually preceded and accompanied by inflammation, the chalk is never enclosed in a cyst, like pus in an abscess; it lies usually on the cellular membrane, on the *bursæ mucosæ*, or in the cavities of joints; I have even seen it thrown out between the cutis and the cuticle. But as the gouty inflammation is of the erythematous kind, there is no extravasation of coagulable lymph, and no newly-formed covering surrounding the chalk. This point is of the utmost importance, and explains many of the peculiarities of gout, which is generally considered as a kind of phlegmon. But the absence of coagulable lymph in the inflamed parts, I consider full evidence of the inflammation being erythematous.

The chalky liquid, when first secreted, gives to the finger the feeling of fluctuation, and cannot be distinguished from the ordinary serous effusion of gout; but, unfortunately, the absorbents cannot take up the chalky particles; they merely absorb the more fluid portion of the deposit. The liquid, therefore, thus effused, becomes thicker and thicker, till, at last, nothing remains but a hard mass. Whenever a considerable effusion of

this kind occurs, the quantity of chalk which ultimately remains is comparatively small, as by far the greater quantity of the deposit is merely serum; it, therefore, usually requires repeated effusions to form any great mass of chalk, and the degree of consistency depends upon the age of the effusion and the activity of the absorbents. The quantity at last accumulated as the result of repeated paroxysms is, in some instances, immense, thus very seriously augmenting the sufferings of the gouty; the distress, however, is not owing to any irritating quality in the deposit, but to its obstructing the motion of the tendons and joints, occasioning often complete false ankylosis, and pressing on and distending the surrounding parts by its bulk. It acts, therefore, by mechanically embarrassing the machine of the body, and not upon the living principle; for it will often remain for years in parts highly sensitive, without exciting the slightest pain or inflammation.

Although these concretions are of so mild a nature, they often are the cause of extensive mischief, by bursting externally, and occasioning ulcers very difficult to heal. When a violent fit of the gout attacks a part where a chalky tumour already exists, the appearance is frequently very alarming, the new paroxysm being followed by a fresh serous and chalky effusion, which, added to the old deposit of chalk, occasions a prodigious

swelling; the cutis when distended to the utmost, generally bursting; yet it may sometimes remain entire. The chalky or serous liquid may then be seen through the semi-transparent epidermis. The surrounding integuments appear of a deep red or of a purple hue, and threaten mortification, while the pain is excruciating.

Having given this brief sketch of the progress and effects of gout in the system, we shall now proceed to consider the varieties of the affection which constitute the special subject of our inquiry.

ARTHRITIC HEADACHE.

GOUTY affections of the head constitute one of the most dangerous, and most formidable varieties of disease dependent on or caused by the arthritic diathesis. Gout in the head, as it is popularly termed, may be met with either in the form of arthritic headache, or of arthritic apoplexy. The former, indeed, is often the precursor of the latter, and not infrequently, when it has been mistaken, and consequently mistreated, or neglected, ends in it.

Arthritic headache is a disease that often escapes detection, especially if the patient have not previously had a paroxysm of gout in its regular form, so as to aid the judgment of the practitioner in forming a diagnosis. The symptoms which mark the disease are attributed to an ordinary determination of blood to the head, or rather to the brain, and the treatment pursued is in accordance with such views. A greater mistake could hardly be committed, for depletory measures in the treatment of gouty affections of the brain and its membranes are generally injurious, and yet they constitute the principal remedies employed to relieve the consequences of determination of blood to the brain, sometimes even when it is recognised to be of gouty origin, or connected with the arthritic diathesis.

Dr. Gairdner in his work on Gout, observes, that metastasis to the head appears to be by far the most usual form of misplaced gout. It occurs with every degree of suffering. The headaches from which those persons suffer in whom the excretion of the urates and of urea has, from any cause, been suddenly diminished, or temporarily arrested, are only the commencement of this affection, which may well be likened to the effect of a poison upon the system,—as indeed it really is,—a true intoxication. I believe that the substance of the brain itself is the part usually affected in these cases, and my reasons are, that the disease is never attended with delirium or wandering, but always accompanied by stupor and apoplexy; the ruptured vessel is found in the cerebral substance.*

It has been said that such cases are to be treated like apoplexy arising from any other cause. I am

* “I have, in former portions of this chapter, stated that gouty affections of the brain have long been known, and I am not sure that some of the older authors may not have alluded to gouty affections of the spinal marrow; but as our knowledge of the peculiar state of the brain and spinal cord, termed *Ramollissement*, is comparatively recent, and not dating with any degree of accuracy earlier than the works of Abercrombie, Rostan, and other modern authors, it is obvious that any observations made by the older writers concerning gouty affections of the nervous centres can have no distinct reference to this lesion.”—Graves’ *Clinical Medicine*, by Neligan.

quite satisfied that this injunction is most dangerous. Patients affected with gout in the head cannot bear the abstraction of large amounts of blood. Much regard also must be had to the heart, which is always more or less diseased, and sometimes in an advanced state of disorganization. We may easily and quickly relieve the worst head symptoms ; but if the relief afforded be not meted out with wariness and skill, we shall too surely discover that we have fastened on our patient worse and more hopeless evils. The abstraction of much blood is, however, wholly unnecessary. A relief given to the system by a small bleeding will enable the kidneys to resume their office, and the worst symptoms will then safely disappear.

Arthritic headache, then, is a disease to detect which demands considerable discrimination and close observation, based on the information obtained by extensive experience, as it is only by distinctive signs, which by some may be regarded as apparently trivial, that we shall be enabled to determine the true nature of the attack.*

* Dr. Holland observes, that "it is somewhat difficult to class the several forms of intermittent headache, with other affections of this kind, but those having lengthened periods of intermission may best perhaps be noted here. The equality of time often observed, even where the intervals extend to two or three weeks, or yet longer, is a very remarkable feature in these cases, and denotes a cause specific in its nature and uniform in its operation. I know

It occurs generally among those in whom gout fails to show itself in the ordinary way, but remains lurking in the system, ready to pounce upon any organ, which, by fortuitous circumstances, may be liable to take on diseased action. The higher classes of the community, among whom gout is frequently a heir-loom of disease, being in many instances hereditary in both parents, are far more liable to this form of metastatic gout, than are either the members of the middle or of the lower orders of society. It is likewise found to affect the females of a gouty family more readily than the males, and more frequently after a certain period of life, termed the "turn of life," has been reached. The younger members and the male branches do not meet with absolute immunity from arthritic headaches, but they are much less subject to its attacks.*

instances where such intermittent headaches have occurred during the greater part of a protracted life. More frequently, however, it happens that they affect especially certain periods of life—in this, as in many other circumstances, showing a singular relation to various disordered actions of the gouty constitution. In conformity with the same relation, there is reason to believe that the kidneys are the excretory organ most concerned in giving relief in these cases, and principally by an increased separation of the lithic acid or its salts. Such action may readily escape notice, where the attention is directed by the presence of pain to another part; but I infer it from close observation of many intermittent headaches, and think the remark likely to be confirmed by others."—Holland's *Medical Notes and Reflections*.

The symptoms which are most pathognomonic of this disease are, a sense of fulness in the head, generally constant, but liable occasionally, from casual circumstances, to change into severe pain; a feeling of vertigo or giddiness, and as if a movement were occurring in the head,—a feeling to which the attention of the patient is continually drawn, and which apparently impairs the powers of thought, and of memory; all the perceptions are confused, and the patient at the same time experiences a sensation as if he were about to become insensible; if he stoop, he is apt to be seized with temporary blindness; the hearing is often inordinately acute, the least noise rendering him almost distracted; he is frequently troubled with a buzzing sound, and sometimes with other noises in the ears; flushings and heat sometimes pass over the head and face; the hair is often tender and painful when touched, and the scalp feels hot, constricted, and uneasy.

With respect to the general symptoms which attend upon this state, they are such as indicate a disordered condition of the digestive apparatus and ill-regulated and badly eliminated secretions. The function of digestion is most frequently very imperfectly performed; flatulence, with acid eructations, a sense of weight and general uneasiness at the pit of the stomach, or borborygmi or rumblings in the bowels, an unpleasant acid, or bitter taste in the mouth, the tongue covered with a brown fur,

with occasional yellow streaks, a disordered state of the bowels, sometimes confined, and at other times much relaxed, the stools being generally clay-coloured, marking a deficiency of bile, or else very highly coloured, dark, and offensive, showing a redundancy of that excretion, but in a very unhealthy state; the urine usually scanty, but highly coloured, and depositing a reddish sediment on standing, with a rough, dry skin, are symptoms which indicate a general disarrangement and an imperfect performance of the ordinary functions of the body, of those, in fact, by which the effete or used up matter of the frame is got rid of through the secretions and excretions, and fresh pabulum or material furnished, to supply the loss occasioned by the waste of the system. Meanwhile, in the midst of much disordered function, and of inactive secreting apparatus, the pulse for the most part remains undisturbed, or if at all altered, marks a diminished rate of circulation,—a greatly lessened degree of tone in the system.

These symptoms are those that are found to be principally characteristic of this specific form of headache,—if I may use the term,—and if they be not removed by appropriate treatment, they will most assuredly terminate in serious disordered action, either in the brain itself, causing arthritic apoplexy, or else by a kind of repercussive metastasis, in the joints usually affected by gout, or in

the other important organs liable to attacks of that disease by metastasis.

In the earlier part of my remarks on this disease, I have alluded to the impropriety of depletory measures and the risk attending their use, in the treatment of this variety of headache; the injurious results which follow from the practice may in part be taken as a sign indicative of the true nature of the disease under which the patient is labouring, when, as sometimes happens, an error in diagnosis, and consequently in the treatment, has been inadvertently made.

CASE.—John B——, 43 years of age, a butler in a nobleman's family, was admitted a patient at the Dispensary last spring. He stated that he had been suffering from severe headache, more particularly at the upper and back part, and a fulness in his ears, causing at times an imperfect hearing, and vertigo. His medical attendant, thinking it to be a threatening of apoplexy, advised bleeding and other evacuants; he was accordingly bled *ad deliquium*, but the relief being only temporary, and the symptoms afterwards becoming more severe, the operation was repeated, with the effect notwithstanding of relieving him for a day or two only; the symptoms then becoming worse, he was soon after obliged to keep his bed. After some days he had a severe pain in the foot, evidently of a gouty nature, the headache and giddiness being in consequence con-

siderably relieved. He was shortly afterwards seized with an intense pain in the lobe of the ear, accompanied with swelling and redness; this continued to enlarge, and remained swollen for upwards of a month, when it suddenly subsided; the head symptoms, in the meantime, were much relieved, and he returned to his duties. Two months after another attack, resembling the first, caused the same treatment to be repeated, with a similar unsatisfactory result.

I saw this man shortly afterwards; he was complaining of a heaviness in the side of the head on which was the affected ear, a continuous and distressing noise, aggravated towards evening, and an occasional pain, resembling tic, on the side of the face and behind the ear. On inspection the structures presented nothing very remarkable beyond a dryness of the meatus, and a slight duskiness of the membrane of the tympanum; the hearing distance being only two inches on the diseased side.

The treatment pursued was the administration of half a grain of the extract of colchicum, twice a-day, a vapour bath three times a week, regulated diet, without stimulants, and less animal food than he had been accustomed to. The case progressed with but little relief for ten days, excepting only that he became more tranquil as to his feelings of nervousness, and had a copious general perspiration all over the body. He continued the

colchicum for six weeks, with the gradual diminution of the tinnitus, and a considerable increase of the hearing distance.

It would be useless to continue the narration of this case further; suffice it to say, that the patient perfectly recovered after a period of six months, being relieved not only of all the head symptoms, and of the hardness of hearing, but also of a troublesome scaly eruption with which he had been tormented for some years. The aggravation of symptoms after the blood-letting shows clearly the injurious effects of depletion, and evidently and forcibly indicates the caution necessary in all such cases when any large quantity of blood is drawn or about to be drawn from the system.

CASE.—Mr. C——, a corpulent, elderly gentleman, consulted me for a troublesome and heavy beating in his head and ears, always aggravated after meals; he suffers from pains in the knees and ankles, and from some difficulty in swallowing, arising from a thickening of the mucous membrane of the pharynx, and some enlargement of the tonsils. When he indulges his appetite somewhat freely, the throat appears, as it were, stuffed with a thickened mucus, and the hearing generally becomes imperfect, the meatus on each side being apparently choked up with a deposit resembling gypsum, which although cleansed and removed, repeatedly reformed, accompanied with a discharge, the passage

being reddened and the membrane of the tympanum slightly opaque. These appearances I have so fully explained in another part of this work, "On Arthritic Inflammation of the Ear," both in the acute and chronic conditions, that it will be needless to recur to them.

This gentleman was advised to pursue a course of treatment resembling that employed in the former case, with the exception that he commenced by active cathartics for ten days. The treatment was continued for a period of nine months, with marked relief both to the chalky formation in his ears, and the threatened suffocation which he had for years been suffering from. These cases not unfrequently present the mucous membrane of the throat in a thickened state, causing a temporary obstruction to the Eustachian passages. Although freely relieved by catheterism, the tube does not remain long patent, and the case seldom does well without the adoption of the constitutional treatment before alluded to.

In a letter I received from this gentleman he states, with reference to the noises, "that they appear to originate within the head, and exactly resemble the hum of a swarm of bees—at other times like the cooing of wild doves—and if I take any extra exercise, so as to get heated, or am in a perspiration, they are much like the jumbling of belts and the ringing of wheels in a large machinery."

It is not uncommon to find, in many cases of

arthritic headache, that the patients have an obstinate discharge from the ear on one or both sides, more frequently on one only: this I have examined from time to time, and have found that, if allowed to dry on paper, it presents some of the earthy concretions indicative of gout;* in such cases colchicum will be found extremely beneficial.

The following case, extracted from Dr. Todd's work on gout and rheumatism, exemplifies the consequences of latent gout in the system, as productive of serious ill health, and the caution necessary to be adopted in all cases where there is reason to suspect a tendency to gout, or the actual presence of the arthritic diathesis.

CASE.—“Miss —, aged about 54, of spare habit, has suffered during a great part of her life from severe headaches; they occurred at tolerably regular intervals of a fortnight or three weeks; were accompanied with vomiting, and appeared to depend on a disordered condition of the stomach; she has always lived abstemiously; none of her family have suffered from gout.

“During the last four years she has had less active occupation than formerly; probably from

* “I know,” says Otto, in his Pathological Essay, “a person in whom, during an atonic attack of gout, the whole mouth, throat, and gullet, are largely covered with a whitish mucus, which, when dried on blotting paper, left behind a large quantity of phosphate of lime.”

this cause she has suffered from depression of spirits; her general health continued good until the early part of last year, when she suffered from dyspeptic pains; she then altered her mode of life, and partly from disinclination to eat, partly from the idea that she might relieve her headaches by starving, she reduced her allowance of food, took only a small quantity of meat, and seldom any vegetables, and she entirely abstained from malt liquor and from wine. Under this regimen she became weak and pallid, and her health suffered materially; her spirits became more depressed, but she did not suffer from any distinct bodily disorder until last August, about three months after she had adopted the low system of diet: she had a feverish attack, which confined her to bed for two or three days, and weakened her very much. As she was somewhat regaining strength she was attacked with gout; the disease was confined to the great toe of the left foot, and was attended with all the characteristic pain, tenderness, and swelling; she recovered from the attack very slowly; it was upwards of a fortnight before she was able to walk, and she still has slight occasional pain in the foot; she has since had some threatenings of gout in the right foot, but she has not had a distinct attack; her former ailments have undergone very little alteration, but under a more generous system of diet her general health has materially improved.

These long-existing headaches are by no means uncommon, frequently continuing during the greater period of a lifetime. Dr. Graves mentions a lady, whose age was 70, and who had no evidence of gout in her family, but who suffered for years with those anomalous pains of the head, the key to which was given by a seizure of gout at that late period of age just mentioned, and whose health improved, and headache subsided after the attack.

In those cases where the patient's sufferings are very great, and urgently demanding relief, I have found the internal exhibition of colchicum to be the most efficacious palliative; care should be taken to direct its operation gently to the bowels, by the addition of a small quantity of sulphate of magnesia to each dose, the circulation being at the same time attracted to the feet by a pediluvium of hot water, made stimulant by means of a tablespoonful or two of the flour of mustard. A moderate degree of diaphoresis may also be brought out on the surface by the exhibition of James' powder, in small doses, given in white wine whey, or else by some other milder sudorific.

Laxatives in cases of head affection are always necessary; and more drastic purgatives may even be required. Prudence, however, is indispensable in their use. While that degree of constipation is not to be permitted which would urge the blood to the head, regard must, at the same time, be had

to the patient's shattered condition. Precise rules cannot be laid down; but the experienced physician will hardly err, if he do not lose sight of the impaired condition of the circulation, at present labouring under a double disadvantage from the oppressed state of the brain, in addition to disease of the central organ, and the generally deranged condition of the frame.

Colchicum, however, produces an effect on the system, in addition to its action on the bowels and kidneys, which ensures its specific operation in these cases, and merits especial notice, as this peculiar action involves the consideration of certain pathological questions, which have not as yet been satisfactorily elucidated. I allude to the influence of colchicum in augmenting the quantity of uric acid eliminated from the system by the kidneys, and discharged in the urine. The presence of this acid, or of its base, urea, in the blood of gouty people may be said to be placed almost beyond the possibility of a doubt. It is the result, I conceive, of a morbid condition in the function of sanguification, or perhaps of the immediate preparatory process of chylification, greatly assisted by a failure on the part of the kidneys to perform rightly their discerning duties, by which the separation of urea and uric acid from the blood should be effected. The presence of this acid in the circulating medium, then, may be regarded as characteristic of gout,

and the fact ascertained by Chelius, the professor of general surgery at Heidelberg, that the kidneys under the administration of colchicum, in the course of twelve days, are excited to abstract from the blood nearly double the quantity of uric acid they had previously separated, will amply serve to explain the remedial influence of colchicum in the relief of the disease, and the manner in which that influence is exerted.

This medicine requires, however, judicious regulations for its use; and not less important is rigid attention to the hygienic rules recommended by recent authors on that subject, more particularly attention to the skin during its administration, combining with the colchicum antimonials and occasional vapour baths; the latter, I think, are preferable.

Colchicum should not be given in the asthenic form of gout.

Colchicum should never be given at the onset of a paroxysm, nor until the bowels have been duly acted upon by mild purgatives.

The first doses of the medicine should be very small; they may be gradually increased.

Colchicum should be always administered at first, uncombined with any other medicine, until the practitioner has satisfied himself that it is not likely to disagree with his patient; and indeed there is always a disadvantage in administering this me-

dicine in combination with others, since it may become difficult, if not impossible, at times, to determine what effect should be ascribed to the colchicum, and what to the other ingredients.

It should not be administered so as to excite nausea, vomiting, or purging. These effects should be regarded as indicative of the unfavourable operation of the medicine.

Colchicum may be regarded as acting favourably when, under its use, the urine is increased in quantity, a more abundant bile is discharged, when the fœces, though solid, are surrounded by mucus, and the skin secretes freely.

The effects of colchicum should be carefully watched, as, like digitalis and other medicines, it is apt to accumulate in the system.

The use of this medicine seems chiefly applicable to the sthenic form of gout, which occurs in robust constitutions, and in the prime of life, but it is almost inadmissible in persons advanced in years, who have had several attacks, and in whom the malady would seem too deeply rooted to be influenced by the temporary administration of this remedy.

These aphorisms may not only be taken to be true in the limited extent to which Dr. Todd has applied them, but even in old age, with judicious management, I have found the medicine equally useful and necessary, with this reservation, that the

doses should be so regulated as not to depress the system in any sensible degree.

The following remarks on colchicum, by Dr. Holland, in his "Medical Notes and Reflections," support the views I have taken. "The first of these, and that which best justifies the term specific, is the fact that the action of colchicum is not limited to the removal of gout from the joints or other textures usually affected, but extends to the relief of the disease when present in parts differently composed, or when assuming the most irregular and changeable aspects. The proof here is wholly that of experience, and, it must be admitted, of recent date; but nevertheless sufficient to authorize the view just stated. We have not, indeed, much evidence applying to the acute forms of what are termed retrocedent and misplaced gout; and in such cases, other and still more instant remedies are often required by the urgency of the symptoms. But in all chronic forms of the constitutional disorder, the influence of colchicum is striking and well-defined. We find it relieving, for example, the peculiar ophthalmia of gouty habits, where other remedies, local or general, have been of little avail. I have used it in a particular class of headaches, which I doubt not to be connected with this diathesis, and have obtained equal proof of its efficacy here; the same, though less explicitly, in gouty bronchitis. These and other instances clearly

show that colchicum is not merely a local remedy for the disease. Its power of removing gouty inflammation from the joints, is subordinate to its action on the matter of gout throughout the system; and it is to the latter that we must look for explanation of those effects which may be thus deemed specific, in every just sense of the term.

“We may reasonably, then, if this view be just, extend to its use as a medicine the remark before made regarding the pathology of gout; viz., that too exclusive attention is given to the external part of the disease, and the value of the remedy in the constitutional forms of the disorder, too little regarded. Larger experience is making a gradual change in this respect; but there is still a tardiness and timidity in its application beyond the mere fit of gout, which is not warranted by any ascertained risk. It has happened here, as in other instances (and especially in the case of new remedies), that the medicine has borne the ill fame of events in which it had no concern. The ordinary incidents of a gouty habit, as well as casualties from other sources, have been carried to its account, by a mode of reasoning common in such cases, and very embarrassing to the physician. Where the morbid actions are so various, and our knowledge of their causes so obscure, it is difficult rightly to discriminate the latter, or to rescue any particular agent from the charge of becoming such. Future

experience may remove these difficulties, but meanwhile they press unfairly on the reputation of the remedy before us.

“I have already noticed the use of colchicum in a class of headaches which I doubt not to be connected with the gouty habit; and my experience furnishes me with much proof of its efficacy in such cases. There, indeed, are instances where it merits a free and fair trial. Our practice has been hitherto so much at fault in certain varieties of this disorder, especially such as have a periodical character, that we are bound, for the credit of medicine, to look elsewhere than to old and inefficient means for their relief. I think it almost certain that some kinds of headaches are produced by the same morbid cause in the circulation which brings on, in other persons, or at other times, true gouty affections of the joints. With due attention to the family temperament, to the individual habit, and particularly to their connexion with certain states of the urinary secretion, it is for the most part easy to discriminate them; and thus attested, colchicum will generally be found to act as a safe and efficient remedy.

“The true theory of gout,” says Dr. Holland, in alluding to the blood poisons, “clearly lies in this direction: it is here that we may look to obtain more intimate knowledge, not merely of the causes of the disease in its active form, but also of its connexion with other local or constitutional dis-

orders, with which it is associated by some common morbid action. Modern observation has led us to recognise some of these relations under the names of gouty headache, gouty ophthalmia, and gouty bronchitis; my own experience would lead me to add certain forms of asthma to the number; but many more undoubtedly yet remain to be determined; and not the least important, those which subsist between gout and the system of the brain and nerves. Reference has already been made to hypochondriasis; and it is highly probable that other disorders, of the same class, still less generally viewed under this connexion, will hereafter be submitted to it."

Having premised these observations, we are now prepared to consider the nature of this remedy, the cases to which it is most applicable, and the limits to be assigned to its use. There is no doubt that colchicum is one of those drugs whose claim to be well considered is established. Its effect in freeing the body from disease, bears no adequate relation to its immediate visible and tangible, or, as it has been called, its physiological effect on the system. This, indeed, is denied by Dr. Christison, who declares that he has never seen the full benefit of colchicum conferred till it had produced griping, purging, or some disturbance of the *primæ viæ*. So far as gout is concerned, I am quite sure this is an error. Colchicum never more effectually relieves

the patient than when it acts silently and peacefully, without producing any evacuation whatever, or in any way disturbing the patient's comfort and ease.

For this reason, I consider the very smallest dose, which will suffice to give us the specific influence of this drug, and mastery over the fit, as the most efficacious and the best. A little reflection, however, on the nature of remedies of this class will, I think, put this in a clear and indisputable light. Narcotics must all be deemed hostile to living bodies. Administered in certain doses, they are all poisons. The further we remove ourselves from this destructive operation, yet retain the virtue of the drug, the wiser surely will be our practice. But the effect of too large a dose is to rouse all the repellent powers of the system, for the extrusion of that which is offensive. A smaller dose absorbed into the blood, is retained there longer, and has a more permanent, as well as more beneficial influence. There is another reason for exhibiting small doses of this remedy, derived from its atomic constitution, which will have much weight with scientific chemists. The alkaloids in which the virtue of many narcotic medicines resides, are composed of elements which present a great contrast to the analytic structure of the organic principles of animal bodies. It is difficult to conceive any alliance between them. The former must always

be treated as foreign bodies when admitted into the system.

The *modus operandi* of this remedy is not wholly involved in mystery. Dr. Douglas Maclagan, Professor Chelius, and Dr. Lewins, have demonstrated that it causes a more decided evacuation of urea by the kidneys.

The cases to which colchicum is most applicable are, without doubt, those of the regular disease, without injury of organs. If there be injury of tissue, so as to argue a destruction of function of any considerable portion of the kidney or liver, the relief to be obtained from colchicum will be problematical. The cases, too, of atonic gout certainly receive less relief from the medicine; and some of them are so little influenced by it, as by no means to compensate for the low and depressing feelings it often creates.

These effects may, however, be much obviated by combining it with warm aromatic tinctures and waters, and with the vegetable laxatives. The latter do not in the least destroy the specific action of colchicum, but, on the contrary, operate advantageously.

The first bad effect seen from too early an administration of colchicum, is that of a total failure of the remedy. The local disease is indeed relieved, but the distress of the patient is in no degree mitigated. His constitutional symptoms remain

the same; and at no great length of time an outbreak takes place in some other part, in all probability nearer the centre of the system. A metastasis has been effected; but the serious consequence is, a prolongation of the disease; and that often causes a great injury to the constitution.

If, on the contrary, the disease be permitted to expend its first violence, colchicum may be both safely and effectually used. When the fever has abated, the edematous swelling of the part been established, and the bowels well relieved, colchicum may be used with good effect, and perfect safety. A long experience of the medicine enables me with great confidence to recommend to younger practitioners to abate much the amount of the dose they use. I have seen doses of one drachm of the wine, or tincture, given twice and three times in the day with no effect on the disease, but with sad disturbance of the patient's constitution; and I have seen the cases led back gently and quickly to health after a little time, with doses, varying from eleven to fifteen minims, frequently administered.

ARTHRITIC OTITIS.

CLOSELY allied to the rheumatic affection of the ear is the gouty ; but in this latter disease the mucous structures are, I think, those most affected ; in every other particular, both as to its origin, treatment, and termination, the seizure being metastatic, we may regard them as being of a similar character.

Arthritic inflammation of the ear* attacks chiefly the fibrous and mucous structures of the organ of hearing, and appears simultaneously or alternately with the manifestations of gout in other parts of the body. It occurs, therefore, sometimes as a

* Dr. Graves observes, "That the gouty diathesis may excite its specific inflammation in most of the tissues of our organs is a fact generally admitted ; but I regret to state that our knowledge concerning the effects which it produces in these various tissues is far from being accurate or extensive. Surgeons have done much towards elucidating its effects on the eye and its appendages." (But its consequences, when affecting the *ear*, either from metastasis, or originating in the head, in the form of headache, and subsequently of gouty otitis, as far as I know, have not yet been alluded to by any author, notwithstanding it is of daily occurrence.) "We are also tolerably well acquainted with its progress in serous, synovial, and fibrous membranes. What changes it produces in the secretions of mucous membranes is a question which has not been studied with attention commensurate to its importance."

sympathetic affection of neighbouring organs, and sometimes as the product of gouty metastasis. Should the inflammation develop itself rather on the external division, or lobe of the ear, the patient feels increased warmth, and an intolerable itching on the part. The latter symptom becomes more and more insupportable, and at length passes into a burning, tearing, and pinching pain, which spreads on all sides over the entire circumference of the auricle. In this case, the patient complains of constant tinnitus, or singing in the ear, and of some hardness of hearing. These symptoms increase to a considerable degree after midnight, and are not mitigated until morning. On examination, the external ear presents an erysipelatous redness; it feels hot, and is extremely sensitive to the touch. The entire surface of the meatus auditorius externus is found to present a redness, rather pale than dark; it is entirely denuded of cerumen, or is covered here and there with a dark-brown thin and dried deposit thereof; the membrana tympani is of a dull appearance, and traversed by some large vessels. Should the inflammation continue at this low point, the epidermis of the meatus auditorius separates in mealy scales, or in larger portions, or becomes agglutinated with the diseased cerumen, which, after a time, is secreted in more than the ordinary quantity. If the inflammation become more in-

tense, small abscesses or furuncles form and burst in the muscles of the ears and in the meatus, during an exacerbation of pain, and eventually discharge an ichorous pus. All the inflammatory symptoms are gradually mitigated after this, and are renewed only when a fresh abscess makes its appearance. In an old patient at the dispensary, there was observed simultaneously a considerable swelling, which spread over the parotid and the mastoid process, was associated with a rose-coloured inflammation of the skin and cellular tissue, and prevented all motion of the lower jaw. In old and cachectic subjects, the parietes of the meatus are swollen and edematous, and there sets in an obstinate mucous discharge. It is somewhat thick, almost without odour, flows not constantly nor equally profusely, but varies in respect to quantity. In damp or wet weather, or when the patients suffer from cold, the quantity is most considerable; when the atmosphere is dry and warm, it is, on the contrary, very small in quantity. If the otorrhea be of long duration, polypous growths may form in the passage, springing generally from its parietes, but where the membrana tympani has been destroyed in the progress of the disease, they may also arise from within the tympanum. In cases where there have been frequent relapses of the inflammation, varicose vessels become developed on the membrana tympani; the membrane itself becoming turbid and

thickened, and assuming a dappled or spotted appearance, resembling a bit of patchwork.

This disease not uncommonly seizes on the middle ear, when it has been reflected as an arthritic inflammation from the throat or tonsil. If it be only of short duration, and the inflammatory irritation be but slight, the patient complains merely of dull pinching and lacerating pains in the ear, which become exacerbated in cold and damp weather, and diminish in severity when the atmosphere is dry; he complains also of a sense of fulness and tension in the ear, of a buzzing sound, of singing, and tinnitus, of indistinctness of hearing, and burning pain and dryness of the fauces. The Eustachian tube is commonly open, but air, when pressed in, enters only with difficulty. If the inflammation rise to a higher degree, it commences with febrile symptoms, and violent shivering, followed by heat and severe headache. Soon after, an almost insupportable tearing, squeezing, and boring pain is felt in the interior of the ear, which extends to all the affected side of the head, to the face, the teeth, to the gums, and the throat, and is greatly increased by attempting to speak or swallow. It continues a considerable time, returns after short intervals of rest, and has attained its acmé by evening, so that sometimes loss of consciousness, rambling speech, and even convulsions, are observed to take place. During this time the patient complains of increased sensitiveness to every-

thing which emits a sound or a noise, and of sensations as from loud ringing, knocking, and buzzing in the ear, which render his state almost insupportable. Sometimes the symptoms suddenly abate, if a paroxysm of gout show itself in any other part of the body. I have met with many cases where the affection of the ear disappeared rapidly after the occurrence of arthritic pains, at first in the shoulder, and then passing down the loins, to the knee, and the toe.* When the inflammation attains its height, suppuration ensues. The pus ulcerates through the membrana tympani, and, with its escape externally, the disturbing symptoms gradually dis-

*. "A great variety of symptoms, classed by practitioners and authors under the name of the anomalous symptoms of gout, infest those persons in whom the malady is struggling for a vent. The gouty diathesis, indeed, almost invariably distresses the nervous system in a very remarkable manner; such symptoms are justly entitled to the name of anomalous, because they are not only subject to the infinite variety, but it is oftentimes from their irregularity, and the impossibility of reducing them to any known rule, that practitioners are disposed to suspect the existence of gout. Hemicrania, neuralgia, pains affecting the eyeballs, the ears, the fauces, the teeth, and the lumbar region, are all premonitory of gout. I have seen the tonsils so sharply seized with gout, as, in the absence of any considerable degree of inflammation, to induce me almost to accuse my patient of exaggeration, till an unequivocal symptom of gout explained the mystery. The same thing is very frequently witnessed in the teeth. Odontalgia, toothache, without the smallest decay of these organs, owes its rise to gout. I have more than once seen perfectly sound teeth extracted in such cases without the least relief."—Gairdner on *Gout*.

appear. The pain then becomes more circumscribed, and is confined more to the ear and spine, and returns at longer intervals. The purulent discharge, however profuse it may have been, gradually diminishes; and if the disease get better, without much structural alteration or destruction of the osseous tissues, the hearing will be restored. The tinnitus aurium and hardness of hearing continue the longest. As, however, the ear remains for a long time sensitive to every alternation of temperature, the inflammatory symptoms may sometimes return, and the discharge from the cavity of the tympanum, with its appendages, be re-established. In some cases effusion of lymph may take place, and caries even may occur. If the arthritic inflammation of the ear run a more subacute or chronic course, it may happen that chalk-like concretions may form in the cavity of the tympanum and in the mastoid process, and these, of course, will induce permanent deafness. Dr. Garrod has found the meatus externus filled with chalky matter, and I have myself observed it in the cells of the mastoid process in elderly people. Portal once saw in a woman, who, after suppression of the menses, suffered from acute pain in the head and deafness, the cavity of the tympanum filled with a hard, white, gypsum-like mass, which extended to the Eustachian tube, and held the ossicula auditûs enclosed within it. That topi and exostoses exist

in the bony parts of the middle ear has been asserted, but has not, as yet, been fully proved.

This disease, however, does not exist solely in the chronic form, for we are occasionally called upon to treat it, when presenting symptoms of great severity and acuteness. They so much resemble those already described as indicating an attack of rheumatic inflammation affecting these parts, that it would be altogether superfluous to enter upon a serious examination of their nature and character. The details of a case presenting the most marked signs of this disease in its acute form, which terminated fatally, will best explain my views, and more easily render my readers conversant with this hitherto almost unrecognised variety of gouty affection of the ear.

It too frequently happens that cases such as these constitute a source of the greatest perplexity and anxiety to the medical men under whose care they are placed, and a very great difference of opinion often prevails as to their nature and seat, when more than one practitioner is in attendance, inasmuch as there is a great unwillingness on the part of some to trace the origin of serious and extensive disease of the skull and of the brain and its membranes to primary affections of the ear. This prejudice, for so I must call it, I have encountered in practice on more than one occasion. The entertaining and acting upon erroneous principles, may

be a means for the loss of much valuable time, and also for the employment of remedies wrongly directed; meanwhile the disease continues to make progress, so that when at last, if ever, the true nature of the malady is recognised, it is too late for a cure to be effected, and very often even for such relief to be afforded as may check the further advance of caries or decay, and the extension of the inflammation of the brain.*

The following case, fully illustrating these facts, came under my care a few years ago. Although the history of the patient was so clear, and the signs and symptoms attendant on the disease were such as, in my opinion at least, to render it almost impossible to mistake, some doubts were enter-

* Dr. Graves relates a case very much in point, showing the difficulty occasionally met with in forming a correct diagnosis in these diseases. He says:—

“A patient, after exposure to cold, is attacked with symptoms of fever; she has headache and restlessness; she then begins to complain of acute pain in the ear, darting inwardly towards the brain; and finally, is seized with sudden vomiting. Under these circumstances it is not difficult to form a diagnosis, and there can be little doubt but that the phenomena here presented are indicative of incipient inflammation of the membranes of the brain. It is not easy to say whether, in such cases, the inflammatory affection of the membranes precedes the external otitis, or whether the inflammation commences in the external ear, and spreads inwards, though I am inclined to adopt the latter supposition, and the circumstance of the fever and earache arising from cold seems to give an additional degree of probability to this view of the question.”

tained by the gentlemen I met in consultation on it, with regard to the connexion between the constitutional disease and the local malady.

Mr. — aged 70, a gentleman residing in the north of London, of full habit of body, and very luxurious and free in his mode of living, after taking a walk in his garden during the evening, in the month of July, the weather being warm but very damp, was seized with severe pain in the left ear, which rapidly extended to the scalp and muscles of the head, rendering the integuments painful to the touch. The hands were also the seat of suffering,—he, an old gouty subject, having sensations in their joints of such a character as to induce him to think he was about to be subjected to arthritic inflammation in those parts. In addition, his health was so much disordered by the attack, as to lead him at once to seek for medical assistance. Leeches were freely applied, and other antiphlogistic remedies were had recourse to, with the requisite attention to diet, &c., but no great amount of relief was obtained. The pain in the ear gradually subsided on the occurrence of a plentiful discharge of thin mucus from the organ. The meatus, on examination, was found to be so much inflamed and swollen, that the condition of the membrane of the tympanum could not be ascertained. The head symptoms were now the most prominent, especially those affecting the occiput

and the mastoid process, and the unfortunate sufferer lay for weeks apparently without sleep, and indeed, without passing a moment free from severe pain, amounting even to agony.

About two months after the commencement of this attack I saw this gentleman: there was a free discharge of thin mucous matter from the ear, which had continued for some time previously; the meatus was much swollen and inflamed, and the integuments covering the mastoid process were tumid, pointing, and tender on pressure, with also a sense of fluctuation, leading to the belief that suppuration had taken place beneath them, as the result of the long existing inflammation. The general symptoms of specific inflammation of the scalp still continued, and the patient's health was evidently greatly disordered. The symptoms of fever were well marked, and, as is usual in such cases, were much aggravated at night.

A free incision was made through the integuments covering the mastoid process, down to the bone; this gave immediate relief, which continued for some hours. The pain affecting the scalp and the benumbed sensation, so frequently complained of in this and in similar cases, subsided altogether. The patient had a good night, with several hours of refreshing sleep. But the relief thus afforded was unfortunately only temporary; all the symptoms returned with redoubled violence the next day;

the incision was consequently re-opened, and leeches were freely applied,—calomel and opium were also given internally, in the usual doses, until the mouth became affected.

About this time Sir Benjamin C. Brodie was consulted in this case; and although the sufferer did not present any immediate or direct signs of gout, he (Sir B. C. Brodie) coincided in the opinion that that disease was latent in the system, or, in other words, that the circulating fluid was poisoned by the presence of uric or lithic acid, and that the existing disease was evidently of an arthritic origin. He recommended, therefore, that the mode of treatment hitherto adopted, should be persevered in; that the incision over the mastoid process should be kept discharging, and that the meatus auditorius should be frequently cleansed with warm water only.

For three weeks, during which this plan of treating the disease was steadily employed, our patient manifested great improvement. The progress of the case, indeed, was so very satisfactory, that we were looking forward to a speedy and a certain convalescence, when, from his own imprudence alone, in inadvertently and needlessly exposing himself to cold, our patient had a relapse, attended with a return of all the symptoms previously existing, but in an aggravated form. The discharge from the ear reappeared; the arthritic pain in the head and

scalp returned, and was exceedingly severe; head symptoms followed, next paralysis of the face on the diseased side, and the patient gradually sunk.

While this case was under treatment, a belief was entertained by some of the medical gentlemen in attendance that the head was primarily affected, and the ear subsequently. The *post-mortem* examination, however, showed clearly that the principal mischief lay in the structures of the organ of hearing, and that, consequently, it must have been the primary seat of disease, the brain and its membranes being comparatively but slightly affected.

The diseased structures were most carefully examined. All the canals were found to be filled with purulent matter, as were also the cells of the mastoid process, the bone itself being in a state of caries. The dura mater covering the petrous portion of the temporal bone was separated and detached from its connexion with that bone; it was much inflamed and thickened at that part, and there was an extensive layer of effused lymph deposited on it; but there was not any evidence of even commencing ulceration. The brain itself, even in the immediate neighbourhood of such extensive disease, was comparatively healthy.

I give this case in some detail, not as one of infrequent occurrence, but as forming a type of the class of cases which are by no means rarely met with in practice, and as exhibiting, in a very marked

manner, the difficulties of diagnosis in such cases. Fortunately, the treatment under either circumstance is pretty much the same; but if attention be not directed early to the formation of pus over and in the neighbourhood of the middle ear; and if the necessary steps be not taken to liberate it speedily, the symptoms become very soon aggravated, and cerebral mischief of a serious nature is set up. The importance of early treatment in the acute form of this diseased condition of the ear is very great. In the chronic variety, when the patient is convalescing, the means of relief are to be directed to the removal of the troublesome consequences, or sequelæ, spoken of in this chapter, both with reference to the prevention of any future attack on this delicate organ, situated so near to the central nervous system, which so early sympathises with it, and for the restoration of hearing.

The causes of gouty inflammation of the ear are in general the same as those of gout in the system at large. To the predisposing causes belong hereditary and acquired disposition to gout, venous plethora, the climacteric period, the suppression of accustomed discharges of blood, too high living, abuse of the pleasures of the table, indigestible food, excesses, and much study, dwelling in a moist, unwholesome atmosphere, great hardships, mental depression, anxiety and care, &c. As occasional causes, all those influences may act which are capable of

giving rise to inflammation of the ear in general; but most frequently very rapid alternations of temperature, draughts of air, cold to the head and feet, and excesses in strong and spirituous drinks. Sometimes the inflammation is the product of metastasis; some gouty attack in the head, hands, feet, or hips, &c., suddenly disappearing, and the disease being developed in the head, and in the organ of hearing.

Gouty inflammation of the ear, whether it attack the external or internal part of the organ, always appertains to the class of uncertain and suspicious diseases, for even if the patient be really re-established in health, still he is never secure from a relapse. The prognosis is most favourable when the inflammation is seated in the external part of the ear, when the individual is young and strong, and is in such a state that everything necessary for his cure can be applied. It is less favourable when the patient is very weak and sensitive, is advanced in years, is of a cachectic habit, and has frequently suffered from attacks of gout. Changes have then taken place in the meatus and membrana tympani, whereby the nutrition of these parts, as well as the function of hearing, has been injured. The gouty inflammation of the internal ear yields an unfavourable prognosis, for in it such disturbances and great changes in the tissues and structures take place,

as are followed—if not by complete deafness, at least by an extreme degree of hardness of hearing.

In the treatment of gouty inflammation of the ear, the first care of the medical attendant should be to see that the patient be withdrawn from the noxious influences which first occasioned the disease, and the next, that the inflammation be checked. In order to attain this end, cold, damp air, and, above all, everything which may promote congestion of blood to the head and ears, must be avoided; on the contrary, living in a dry, temperate air, spare diet, food easy of digestion, and perfect rest of mind and body, are recommended. It is easy to see that, in the commencement, the so-called anti-arthritic remedies, which in general belong to the class of exciting medicines, are not applicable, and that only an appropriate mildly antiphlogistic mode of treatment is admissible. In this case, one must be directed partly by the age and constitution of the patient, partly by the seat and degree of the inflammation, and also by the violence of the accompanying fever. If the inflammation of the meatus be slight, no blood-letting will be required; but if it present a violent character in all its phenomena, it should be reduced by local blood-letting, by means of leeches placed behind the ear. But if the inflammation have attacked the internal ear, and have attained considerable intensity, then, if the patient

be strong, plethoric, and not advanced in years, the practitioner may have recourse to a proportionately free abstraction of blood; according to the violence of the local symptoms, he should place a greater or less number of leeches around the ear, or apply cupping-glasses to the nape of the neck, to the shoulders, and the spine. In weak and elderly individuals, where the inflammation is not violent, or has become chronic, a few leeches, or a small quantity of blood taken by cupping will suffice. Internally, we should prescribe mild, antiphlogistic aperients, in such doses as to produce copious liquid evacuations from the bowels, and a derivation from the head and ear as quickly as possible. After the inflammation has been moderated, should the affection of the ear be the consequence of a suddenly suppressed action in any joint or organ whatever, there a cutaneous irritant should be freely employed, so as to set up inflammation in that part, and thus, if possible, reproduce the original disease.

In less urgent cases, we may use frictions with croton oil or tartar-emetic ointment over the region of the mastoid process, and blisters on the nape of the neck, which are to be kept open, issues on the upper part of the arm, or setons in the nucha. If the inflammation be checked by the internal treatment, and the sequelæ of disease only remain to be treated, we should direct our efforts against

the gouty predisposition, and seek to ward off a relapse. We should accordingly, in the first place, prescribe an appropriate dietetic line of conduct, recommend the use of food simple and easy of digestion, forbid strong beer, acid and heavy wines, and other such drinks, as well as all heating, flatulent, fat, salted, and highly-seasoned food. The patient should take sufficient bodily exercise, not tarry too long in bed, clothe himself sufficiently warmly, in order to protect himself against the risk of cold, cover the head with a warm cap, and use friction carefully all over the body. In order to remove the disturbance in digestion, the formation of acid, mucous obstructions, &c., those resolvent and bitter remedies so celebrated in the treatment of gout will be found serviceable,—such as the bitter infusions, decoctions, and extracts, &c. Several of the aperient and diuretic mineral waters act beneficially, more especially in the case of congestion of the head. To influence the lymphatic system and the excretions generally, sulphur will be found useful, as also, guaiacum, aconite, dulcamara, the wine of the seeds of colchicum, &c.

With respect to the local treatment of arthritic inflammation of the ear, whether the external or internal part of the ear be affected, nothing further is to be done at first, except to cover the ear and the entire side of the head affected with warm dry cloths, and the like. Moist applications should be

carefully avoided, as neither the less nor the greater degree of arthritic inflammation of the ear will admit of any such being used. In order to remove the morbid sensibility of the nerves of the ear, we may rub into the parts surrounding it the fluid ointment, with tincture of opium, or extract of belladonna, or allow a solution of one grain of morphia in half an ounce of olive oil to be dropped in. In case of abscess forming in the meatus, and suppuration taking place in the cavity of the tympanum, soothing and anodyne vapours and poultices are to be employed. Should a purulent discharge be established, mild fluids are to be injected, the ear and the meatus being afterwards carefully dried, and covered with a compress. Obstinate ulcers in the meatus should be treated locally with the tinctura opii, and even with the lapis infernalis. Should any affection of the mucous membrane set in, it is to be treated on the usual plan.

A case of deafness of some standing is given by Sunter; it was of a rather troublesome character, and continued for some time, till the key to the matter was discovered in its dependence on gout. The first circumstance that led to the suspicion of the presence of gout in the system was, that one ear was attacked as the other got better. Much stress is laid on the transient and alternating character of gouty diseases by the chief writers of the

Irish school. Dr. Graves gives a very curious case of what he calls "gout in the stomach" keeping up an alternate action, with a swelling on the forehead, involving the cheek and eye. He adds:—

"I was consulted by an old retired excise officer, whose deafness was always relieved after a seizure of gout in the foot; on the cessation of this action, his imperfect hearing returned. This occurs regularly, but, with ordinary attention to his diet, I doubt not, it would become easy of management. When he is free from gout in his foot, the discharge from his ears is most profuse, and of a thin mucous character. This has been examined under a microscope, and always presents a gritty deposit—probably the phosphate of lime.

"As there can be no doubt, then, that a momentary congestion may produce a momentary pain, we may infer that, in many instances, gouty twitches are owing to some cause which determines an instantaneous congestion of the affected part. Sometimes the congestion is more lasting, and the pain is proportionally intense and persistent. Thus, the late Mr. Daly, of Henry-street, mentioned to me the case of a gentleman, the lobe of whose ear was sometimes attacked suddenly by gouty congestion, accompanied by agonizing pain, but which never lasted more than a few hours. And I have myself recently suffered from a similar attack in the carti-

lage of the ear, which did not last longer than an hour, disappearing on the occurrence of gouty pains in the fingers."

Dr. Graves then proceeds to narrate a singular and interesting case of fatty enlargement of the lobes of the ears occurring in a young gentleman, who was also the subject of fatty degeneration of the liver, from the effects of which he ultimately died. As the case itself is very singular, I transcribe it in Dr. Graves' own words, although it has not any immediate connexion with the subject-matter of this chapter. Dr. Graves remarks:—

"This fact brings to my mind a curious case which some years ago came under the notice of Sir Philip Crampton, Mr. O'Ferrall, and myself. A young gentleman of fortune perceived that the pendent lobes or tips of his ears were becoming elongated; they increased gradually in such a manner, that he considered himself disfigured by their unseemly length, and therefore attempted their concealment by allowing his hair to grow in long curls, so as to hide the ears. This gentleman soon afterwards became dropsical and died, and, on dissection, Mr. O'Ferrall found his liver in a state of fatty degeneration. On slitting up the elongated portion of the ears, he discovered that their hypertrophy had been occasioned by the deposition of a large quantity of fat. The subcutaneous adipose tissue and the omentum were likewise much loaded with fat.

This observation is of much importance, as teaching us that fatty degeneration may be the consequence of a general tendency in the system to manufacture and deposit fat in the textures of different organs. In this point of view, the change of structure in the liver must be regarded as an effect, and not as a cause, of the general derangement of the system and the fatal termination of the case."—Graves' *Clinical Medicine*.

There is another form of this gouty affection of the ear, which is more chronic and insidious in its progress, but which is not therefore of less importance to the practitioner and to the sufferer; it is frequently met with after years of suffering from gout in the extremities; the diseased action in those parts gradually diminishes, and the patient then begins to complain of a singing noise and rustling sound in the ears, generally accompanied with headache in the morning, and giddiness. The distressing noise appears to the patient to be more external, or in the meatus, as it were, and not to be so deeply seated within the head, as it is found to be in the acute form or variety of this complication.

It is also generally associated with imperfect hearing on one or both sides of the head,—it terminates, in the majority of cases, in confirmed deafness; whereas, on the other hand, if the nature of the diseased action be recognised early, and duly, and

promptly and properly treated, it is easily brought under control and rendered amenable to treatment, so as to obviate the occurrence of any loss of function, or of change in the structural condition of the parts concerned. When a structural change in the ear does occur, and appears to be merely superficial, not involving the deeply seated, and more important textures, the treatment to be pursued should be of a decided nature, according to the plan previously indicated; the use of powerful antiphlogistics, however, being altogether abandoned, as the time will then have gone by when they could be of service; indeed, the length of time these unpleasant symptoms affecting the head and ear may exist, the function of hearing being more or less impaired, while there may still exist a probability of a cure, or at least of a certain amount of relief, is truly extraordinary. It is, however, advisable to address oneself to the treatment of this form of disease as early as possible. Attacks of this kind are usually preceded by some marked disorder of the digestive functions; the secretions are generally unhealthy, more especially the urinary. I have observed that as the extremities become in a more healthy state, and are less swollen, so these diseased phenomena in the ears and head increase in severity. In many instances I have traced this gouty affection of the ears and head to hereditary tendency, and in others I have observed it to be subsequent to the first attack

of gout in other parts of the body. The pain and inflammation in these cases do not reach the ordinary degree of intensity, or at any rate, do not continue for the usual time, and then disappear gradually; but they cease abruptly and entirely, while symptoms of severe and alarming disorder arise as suddenly in some internal organ. This sudden metastasis is often mistaken when the ear is the part affected; and as it is generally for days previously the seat of the abnormal noise or of imperfect hearing, the organ is subjected to much irregular or injurious treatment, such as violently syringing the meatus, practised in all probability, again and again, and followed by the use of all sorts of acrimonious and stimulating nostras, applied to the same part. I believe I have in more than one instance known the organ to have been irreparably destroyed, as regards its function of hearing, and even in some measure, as regards a portion of its delicate structure, after a forcible syringing, with the view of removing diseased wax which was supposed to be impacted or indurated; the operation, under these circumstances, being frequently followed by acute symptoms, indicative of the mischief that has been thus caused.

Very lately I saw a case where the gout, which had previously been seated in the stomach, and had given rise to great suffering and danger, afterwards attacked, first the eye, and then the ear, by metas-

tasis, terminating ultimately in partial paralysis of the face. The treatment in this chronic or sub-acute form of the disease, although chiefly dietetic and constitutional, must be also directed locally to the diseased organ. I have in some cases, as a precautionary measure, recommended the abstraction of blood by leeches, from time to time, and with advantage. Evacuant remedies have been in disrepute for some time in this disease, but for the safety of an organ so closely connected by proximity and sympathy with the brain, and so obviously influenced by metastatic action, this prejudice is sometimes to be disregarded, if we desire to prevent further mischief. As should be the case in all instances of metastasis of disease, local stimulant applications to the joints usually affected with gout, should be freely and steadily applied, in order, if possible, to recal the disease from the more important organ to that or those which are of less direct value to the system.

The exhibition of colchicum, in judiciously regulated doses, carefully administered and followed up, may be fairly accounted almost a specific for the gouty metastatic action in the acute or the chronic form; this truth has long been observed by practitioners. I have satisfied myself that in many cases, when so administered, the distressing noises in the ears and head, always associated with this form of diseased action, are more easily and de-

cidedly relieved than by any other medicine; it is premised, however, that the co-operation of the patient and perseverance also on the part of the practitioner are required, the drug being administered in small doses, repeated regularly, every four or six hours, the patient being admonished as to its effects, and not allowed to modify the quantities in any case whatever, unless under special circumstances, and in accordance with the directions of his medical attendant; it acts then principally as an alterative. The prejudice against this drug arises, I believe, from its having been given in over doses, and from its administration in cases for which it was not suited.

In addition to prescribing colchicum in small doses, in the treatment of this disease I am in the habit of directing its local application in the form of the extract of the acetate to the part affected, either around the throat, or behind the ear, as the case may require. The preparations I have the most confidence in are the wine of the seeds and the extract of the acetate. There are headaches and deranged conditions of the digestive organs occurring in the gouty diathesis, which are presumed to be clear indications of the presence of the arthritic poison in the blood, and if such symptoms yield, as unquestionably they often do, to colchicum, that presumption draws near to proof. It not unfrequently happens that we are obliged

to administer this medicine for months ere decided relief is obtained.

I attended an old military officer, whose hands were crippled with gout, in consequence of the metastasis of the disease from the extremities in precisely the manner I have already described. He had also the symptoms of gouty affection of the ears, with the noise or tinnitus peculiar to the complaint, and the impairment of the hearing. He took colchicum in small doses, with great regularity for upwards of eight months, and the result was, that he was not only relieved of the metastatic gouty otitis, with all its distressing accompaniments, but he has also been free from the recurrence of the constitutional disease in the extremities for many months.

We are by no means unfrequently consulted in reference to a copious discharge of a purulent character, from one or both meatus occurring in elderly people, in whom no manifestations of gout are or have been present, nor even indicated by the occurrence of any one symptom common to that disease. It is useless to attempt to check this symptom by the ordinary treatment, to which we should have recourse did it follow the usual course of inflammation, nor does the mucous membrane, on examination, exhibit the pathological changes usually observed in otitis, except, perhaps, that the portion of it which covers the membrane of the tympanum

is thickened and changed in colour. I have known this discharge resist every kind of local treatment; nor, indeed, do I think it very judicious to attempt its removal or cure, especially when our suspicions respecting its origin and causes have been confirmed by the results of our inquiries and by the history of the case. These discharges sometimes alternate from side to side, occasionally subside spontaneously, or after a seizure of gout in the extremities, or again are arrested after a well-regulated course of alkaline mineral waters; the latter plan of treatment, with occasional cleansing the meatus with warm water, will be found the best that can be adopted.

I was consulted by an elderly lady, during the past winter, who stated that she had been seized suddenly with a profuse purulent discharge from the right ear, without having had any previous intimation of approaching disease, by pain in the organ, or any other premonitory symptom or sign, except only loss of appetite for food, accompanied with heaviness in the head, and a disposition to sleep, which she had observed for several weeks previously. Feeling annoyed with the unpleasant and disagreeable discharge, and its little disposition to yield to the treatment that had been adopted, she, contrary to the advice given to her, determined on having it suppressed; the symptoms in her head, which had before annoyed her, became, in

consequence of the success that attended the efforts for its suppression, suddenly aggravated, and she remained in great danger for some days, suffering from all the symptoms of approaching apoplexy, when, as suddenly, an attack of gout occurred in the foot, which lasted for upwards of three weeks; the head-symptoms yielded to the revulsive efforts made by nature, and she rapidly convalesced, not a sign remaining either of the imminent danger of apoplexy, with which she had been threatened, or of the discharge from and the diseased state of the ear, except perhaps some slight imperfection in the hearing.

I have observed that, in several cases, the patients have been affected with heaviness in the head and over the brow, prior to the occurrence of the discharge from the ear, and, I believe, these premonitory indications, together with the diminution of the quantity of the acid contents of the urine, will be found very important signs, as contributing to the formation of an accurate diagnosis; Dr. Holland very appositely alludes to these discharges, as occurring in other parts of the body, in a chapter on old age, and I shall make no apology for introducing his remarks, as confirmatory of my own opinion in these very important cases, and with them shall conclude this section of the work.

“The first practical conclusion which the prudent physician will draw from his knowledge here is in

some sort a negative one; viz., not to interfere—or, if at all, with care and limitation—in those cases where changes, irretrievable in their nature, have occurred in any organ or function of the body. To urge medical treatment in the face of distinct proof to this effect, is to sacrifice at once the good faith and usefulness of the profession. This is a point the more needful to be kept in mind, as the patient himself, and those around him, are rarely able or willing to recognise it. It is often an exceedingly nice question of conscience, as well as of opinion, to define the extent to which practice may rightly proceed in such instances; always admitting, as must be done, that something is due to the feelings of the patient; something also to the uncertainty of our judgments, antecedently to actual experience. This question, in medical morals, like so many others, cannot be treated as a general principle only. The integrity and discretion of the practitioner must ever be appealed to for guidance in the endless variety of particular cases. In some, concession to a certain extent is safe, or even justifiable by indirect advantage to the patient. In others, mischief alone can arise from this meddling with the course of nature; and bad faith or bad judgment is involved in every such act of practice.

“Illustrations of the latter kind may be drawn from a class of cases meriting much attention; those, namely, where discharges occur from some

part of the body, the fitness of checking or suppressing which is the main question of treatment. The discredit injuriously cast upon the humoral pathology had the effect, during a long period, of withdrawing the attention due to this class of disorders; and which, with inferior means of research, the ancient physicians had more sedulously bestowed upon them. Modern inquiry has reverted to the subject; and with the assurance, already sanctioned by the results, of finding in it a wide field of discovery.

“Whether these discharges be habitual or critical, or vicarious (for they may be understood as occurring in each of these senses), equally do they express functions of life, which cannot too sedulously be kept before us in practice.

“I entertain no doubt, from proofs furnished at every period of life, and particularly from the evidence by metastasis (of which I have noted many curious instances), that these large mucous secretions are often as essential to health as the secretions from other organs, which we assiduously seek to sustain,—the necessity for them having, doubtless, some relation yet unknown to the healthy properties of the blood, varies exceedingly in different habits, and at different ages; and this variation we can often distinctly connect with the state of other secretions, sanctioning the term vicarious, though not perhaps in the absolute sense

in which it is sometimes used. We may seek to moderate occasional excess, to facilitate expectoration, and to regulate the cough so that it shall interfere as little as possible with rest. But to urge practice beyond this, in control of habitual symptoms, is more frequently a mischievous interference than a right direction of medical treatment.

“ The latter symptom of cough is that for which the physician’s aid is most generally invoked, and where concession is too often and indiscriminately made. For, whether the secretions from these membranes be necessary or not, the act of coughing is at all events needful for their extrication or removal; and cases must have occurred to every practitioner, where it is difficult to avoid the conviction that the sudden arrest of this, by opiates or otherwise, has accelerated a fatal event. This point is always to be kept in view in treating the disorders of advanced age, as well from the frequency of the symptom, as from the mistaken views regarding it, which are constantly pressing upon the better judgment of the physician. In a former chapter I have noticed the undue apprehension which prevails as to the mechanical act of coughing, as if this were always a serious and assured mischief. In some cases it is unquestionably so; but there are others where it is even beneficial to a certain extent in relieving the stagnant

circulation, and giving a freer access of air to the lungs; and, under almost all circumstances, cough may more expediently be looked to in practice as an index than as a malady in itself.

“ A similar caution may be given as to interference with the secretion of lithic acid from the kidneys, generally increased in amount in old age. Alarm is often excited by the large quantity of this coming away, and alcalies are as largely given to obviate it. When there is a tendency to concretion or occasional lodgment in the kidneys, this may be proper; but where the discharge is free and without distress, and there is no obvious disorder of internal organs attending it, the wisest practice is, generally, that which most refrains. This discharge, indeed, is often the most effectual outlet for that which, retained and accumulated, becomes a source of active disease, particularly to the brain, in those of advanced life. I have known many patients never well, unless when such removal of animal matters through the urine was largely going on.

“ I may further allude, under a similar view, to habitual discharges from the bowels, resembling often, those of active disease, yet attended with no distress, and indicating only the need of separation of these matters from the body. A meddling or rude practice in these cases is rarely effectual for

good, and may do serious harm if it alter or suspend actions salutary to the system.

“ Though less frequent occurrences than some of the preceding, the same remark applies to certain passive hemorrhages incidental to advancing age, epistaxis, hematuria, hemorrhages from the bowels, uterus, &c. In conformity with the oldest opinions in physic, these may often be regarded as salutary evacuations, critically occurring to the relief of particular organs, or of the general circulation. On the approach of old age, as indeed at other marked periods of life, (without getting too far into the mystery of epochs,) various new balances are struck in the allotment of the blood to different parts; and in the course of such changes, congestions and discharges are prone to occur: the latter relieving or preventing the former. The tests by which this is to be determined are generally simple and well marked, requiring only care to note them. And all experience teaches how frequently these discharges, even when most profuse, proceed safely to a termination; their continuance being defined by the relief they afford to the exciting causes. But here also the physician is occasionally drawn out of the temperate observation which is his best practice, by the alarm and anxiety of those who surround the patient. Without evidence of inflammation or organic disease, the lancet is taken up to

control, as it is presumed, the internal hemorrhage; or lead and other astringents given, with vague relation to the cause or seat of disorder, and often with mischievous effect in other ways.

“ Taking into fair view the average of such cases, and without any undue favour to the doctrine of critical evacuations or vicarious discharges, I believe more evil to be inflicted by eagerness to check or alter the course of hemorrhages of this kind, than can be incurred by a cautious forbearance and observation of their progress, with due care to sustain the system under any exhaustion which may attend them. Even in common cases of hemorrhage from diseased structure, this consideration is to be kept in view; but particularly where there is presumption of its taking place from mucous surfaces, or in the parenchymatous structure or organs, without actual organic disease.

“ Though noting this point here, as one which demands especial attention when life borders on old age, the remark might be made much more general as respects the treatment of hemorrhage. Instances there doubtless are, in which speedy restraint is the only safety, and many more in which prevention or change of direction are sedulously to be sought for. But there remain numerous cases at all periods of life where present hemorrhage, even of an active kind, is best treated by simply withdrawing all that may excite or protract it, and

where the causes of the bleeding are most relieved by its occurrence. Hemoptysis is not so much to be dreaded in itself, being often a partial relief to the pulmonary circulation, as in the indications it gives of future evil. Hematemesis, however large in amount, rarely needs any active control. It expresses more distinctly, perhaps, than any other hemorrhage, the need of the relief which it actually affords to a part of the circulation; and I believe more injury than good to be done by the means often used to check it. The same remark will apply to hematuria, with some qualification for cases when it originates in calculi or disease of the kidney. On these points, as on so many others, the experience of the physician must be brought to judgment on particular cases. Where precepts, to be applicable at all, need to allow for such numerous and important contingencies, they lose much of their value in practice."

SECTION THE THIRD.

CONNEXION BETWEEN GOUT, RHEUMATISM, AND NEURALGIA.

THIS section is to be devoted to the consideration of neuralgia, in all its varieties, as a consequence of the diseases treated of in the foregoing chapters extending their influence to, and impairing the normal condition of the nerves of the parts affected. I am well aware that a great deal has been done by the authors who have preceded me in this investigation within the last few years; it will not therefore be necessary for me to review the subject generally, but only so far as rheumatism and gout and their consequences, as affecting the ear and the head, impair the functions of the fifth pair of nerves, thus rendering the convalescence from the original disease very troublesome and difficult, and demanding great caution on the part of the medical practitioner. This compli-

cation also shows the importance of his forming a correct diagnosis early in the treatment of these diseased actions.

In this section I shall endeavour to show that rheumatism, or the rheumatic diathesis, is very frequently the cause of the occurrence of *tic-douloureux*; and, as a corollary of that statement, that by keeping that fact in view, and acting in accordance therewith, these cases become very amenable to treatment. A correct knowledge of diseased actions can only be attained by a thorough acquaintance with physiology, so that by being aware of the healthy or normal functions of the organs of the body, we become better acquainted with, and more able to appreciate their deviations and aberrations from nature. As our knowledge of physiology advances, many changes hitherto deemed inexplicable in pathology, will be more readily understood; it is, therefore, desirable that every new fact or alteration of structure caused by disease should be placed on record. Some of these may appear difficult of explanation at first, but they cannot fail to be properly appreciated and understood, when observations of a similar nature have been freely multiplied, and enlightened views on the subject are entertained by the profession; for, in fact, the grouping together a series of cases having a direct bearing on each other, cannot but result in rendering their causes, influences, and consequences,

more easily intelligible to the true student of nature.

There is not, in all probability, in the entire circle of medical nosology, a class of diseases respecting which the medical practitioner finds more difficulty in tracing the proximate cause of the morbid condition to some determinate seat, than those which appertain to or involve the nervous system; and of all the disorders to which the human frame is liable, there are few more afflicting than those painful affections of this part of the human system, called by the technical names of neuralgia or tic-douloureux. The sufferers are generally more or less incapacitated for any permanent exertion or employment, because of the effects of the intense pain, and of the general debility which is thus induced, and also of the consequences which result from the action of the powerful narcotics so often had recourse to, to deaden the severity of the agony, and which are in so many cases so urgently called for by the very intensity of the pain; these must all tend to subdue the greatest and most determined resolution, and also greatly to impair the powers of mind and body.

Although all this affords a strong reason for a thorough investigation into the causes, origin, and nature of these neuralgic affections, nevertheless, it is a painful fact that there are few diseases which are so little understood; the obscurity in which they

are thus buried may, in some respects at least, be attributed to the more than ordinary difficulties attending their investigation. Opportunities for examining into the pathological changes that may have occurred by means of post-mortem investigations are of very infrequent occurrence, and when they are met with, the alterations in the component structure of the nerves themselves are not generally of a nature to be cognizable to our senses. The microscope may in future render great assistance on this point, but without its aid but little can be effected, for the human eye is not able to distinguish the minute changes in the tubes composing the structure of a diseased nerve. Tumors have certainly been discovered pressing on the nerve that has been the seat of the excruciating agony of *tic-douloureux*, and some other changes in the vicinal structures have been ascertained, but the true morbid anatomy of the nervous system offers, even in the present day, a wide field for discovery and speculation. Theorists, however, have not been altogether idle: various opinions have been formed and ideas promulgated respecting the proximate cause of neuralgia, but in the majority of instances they are altogether unworthy of notice.

The pain in neuralgia has in many cases been so entirely confined to one nerve, and the disease has been attended with so little apparent disorder of the system generally, as to have led to the belief that

neuralgia may be regarded as a strictly local malady, but, on the contrary, seeing that an operative procedure has most frequently failed in affording permanent relief, the disease generally returning after a longer or a shorter interval of quiet, the conclusion that it is truly constitutional, or dependent on constitutional causes, has of late been considered to be almost irresistibly proved.

The forms of nervous affections are very various and complex, and the symptoms to which we must look as furnishing their real character are of the most heterogeneous kind; on some occasions symptoms which arise merely from what is called hysteria, or from some other purely nervous affection, bear so strong a resemblance to those indicating organic disease of the most serious nature, that the utmost sagacity and well instructed experience are called for on the part of the practitioner to enable him to give a sound and correct diagnosis as to the nature of a given case. So fully acknowledged is the difficulty of forming a diagnosis in these cases of nervous disorder.

It has been thought by some that tic-douloureux, as well as the other forms of neuralgia, is connected with a disordered or vitiated state of the digestive organs; it is not at all uncommon to meet with patients suffering from this affection, who present all the symptoms of gastric disturbance, and judging from experience, I am led to the conclusion

that derangement of the digestive functions—a common symptom in all severe or protracted cases of gout and rheumatism—may be either causative of, concomitant with, or consecutive to, attacks of tic, or of neuralgia generally.

It is evident that tic-douloureux very frequently takes its origin in some peculiar condition of the general system, and that it very rarely exists as a merely topical or local disease. Several cases have occurred in which a temporary attack of the pain has been evidently brought on by functional disturbance of the stomach, as, for instance, by the generation and presence of great acidity in that organ; whether such a state of the *primæ viæ* ought or ought not to be regarded as the effect of the disturbance of the system which has given rise to the tic-douloureux itself, is a question worthy of consideration.

At all events, when such acidity does exist, the employment of alkaline medicines will be sufficient to correct it. It was the opinion of Mr. Abernethy, that a disordered state of the digestive organs, combined with a depressed state of the nervous system, was to be detected in almost all cases of tic-douloureux, and that that disease may often be cured by a line of treatment calculated to improve the organs connected with the digestive and nervous systems.

It cannot be denied, however, that the constitu-

tional causes of *tic-douloureux* are buried in profound obscurity; as a general rule, however, we must consider it an asthenic disease. We commonly meet with it in persons of a weak, irritable, and depressed constitution, in whom there exist marked symptoms of debility, and a deficiency of nervous energy; sometimes, however, the objects of its attack may be individuals, in whom there seems to be a proneness to plethora, and cases are recorded in which this disease has preceded an attack of apoplexy. Still every day's experience shows us that *tic-douloureux* occurs much more frequently in broken down constitutions, wherein the *vis vitæ* is impaired either by reason of excess, increasing years, or of natural debility. Females are supposed to be more obnoxious to this affection than males, more especially to that form of it which attacks the head and face. It is not undeserving of remark, that statistical accounts of this affection indicate a considerable difference in the ages at which males and females are respectively most liable to be attacked by it, the period for women being between 20 and 30, and for men between 30 and 40; whilst children are but rarely subject to it.

Some writers consider *tic-douloureux* as derivable by hereditary transmission; and certainly it seems no more than reasonable to consider that if the peculiar diathesis most suitable for the development

of gout or rheumatism may be transmitted from generation to generation, the transmission of neuralgia, from parent to child, may in like manner occur; nothing is more common than for persons to suffer from tic-douloureux and rheumatism simultaneously.

Some writers have even gone so far as to say that neuralgia is neither more nor less than rheumatism of a nerve or of its neurilemma. The effusion into the fibrous sheath, the result of the inflammatory action, causes the pain, by inducing pressure on the structure of the nerve itself; it has even been said that when tic-douloureux shows itself in a person of a rheumatic temperament, it alternates with the rheumatic pain in the fibrous tissues. It has been observed by the erudite Siebold, and by Dubois, that, when prosecuting their investigations into the nature and causes of neuroma, they rarely, if ever, failed to trace the cases to the influence of the rheumatic diathesis. At all events, the patients had been more or less subject to rheumatism in one or other of its forms, prior to suffering from neuralgia.

Some distinguished French surgeon, Larrey, I think it was, considered tic to consist in chronic inflammation of the nerve affected; others, as we have just stated, have actually identified it with rheumatism. When the habit of the individual is at all predisposed to tic-douloureux, it is impos-

sible to set limits to the changes that may operate as exciting causes of the affection—exposure to cold and damp, or to currents of cold air whilst the body is bathed in perspiration; damp clothes, fatigue or lassitude, great excitement and mental anxiety; irritation caused by an unhealthy condition of the abdominal viscera; irritation arising from the presence of worms, hemorrhoids, or any mucous irritation, may all contribute to induce a paroxysm of tic-douloureux.

Malaria is in all probability another frequent cause of tic-douloureux, more especially of that variety of it which puts on the intermittent character; if it be so, it must produce its effect merely by its power of depressing the energies of the system generally, and thus, in case there be a predisposing tendency to neuralgia in general, by establishing a state of the system favourable for the development of the neuralgic affection.

With respect to the exciting causes of tic-douloureux, those which alone have a definite character, are the mechanical lesions of nerves, and they have been frequently known to produce neuralgia; these may arise spontaneously, as in pressure on a nerve by tumours formed either in its own substance, or in some neighbouring structure, as from aneurism, exostosis, or thickening of the bone in which the canals are situate through which the nerves pass, or from the formation of bony deposits,

as in the well-known case of the late Dr. Pemberton, in whom there was a thickening of the whole of the frontal bone, and the formation of a spicula of bone near the crista galli.

Numerous cases are recorded in the medical periodicals, which all establish the fact that mechanical injury to a nerve may serve as the exciting cause of tic-douloureux. I remember, among a great many other cases, to have read of one in which a violent and obstinate tic-douloureux was cured, after continuing for twelve or fourteen years, by extracting a small piece of china from the cheek. When this affection is dependent on constitutional causes, it is remarkable that the pain may leave one locality and show itself suddenly in another. Instances have occurred in which a fit of neuralgia is said to have alternated with an aberration of intellect.

Although any part of the body is liable to be attacked by neuralgia, its most usual locale is in the divisions of the fifth pair of nerves. Hence a division, and by no means an improper or irrational one, of this affection, has been adopted; viz., into frontal, infra-orbital, and maxillary neuralgiæ.

So strongly marked, and so truly characteristic are the symptoms of facial neuralgia, or tic douloureux, that there can be no difficulty in the diagnosis: the pain is represented as being very peculiar and acute; it shows itself in a nerve suddenly,

following its course like the passage of a burning substance drawn along the part, and proceeding from towards the root of the nerve throughout all its ramifications to its termination. Sometimes the pain is shooting, and sometimes shooting and burning at the same time; it is not increased by pressure, but sometimes it is even diminished by it; the paroxysm is often followed by a sense of torpor and pulsation in the part; the pain is sometimes accompanied by prickings and twitchings; these are, however, rare symptoms; that which characterizes the affection is the way in which the pain follows the course of, and indeed confines itself to, the nerve and its ramifications, avoiding the neighbouring parts. In general, as has been already stated, there is no appearance of vascular action nor of effusion; when the pain, however, has continued for some time, some slight appearance of inflammation may be discovered. It usually happens in this affection that, after the abatement of the pain, the patient passes a considerable quantity of clear, pale-coloured urine, in which the earthy phosphates are found to predominate.

While on the subject of facial neuralgia, it may be as well to introduce here some observations of Bellinghieri's, which tend to show that the fifth pair of nerves or the trifacial, as they are sometimes called, are in reality vital nerves. The author I quote is held in the highest repute as a

physiologist and anatomist. His investigations respecting the minute anatomy and the functions of the nervous apparatus of the human body, will long be held in the utmost esteem, and have placed his name in the book of science as second to Charles Bell alone.

Without further preface, I proceed to give the following abstract, in explanation of his views:—

THE FIFTH PAIR; VITAL NERVES.

That the trifacial is a vital nerve Bellinghieri shows, first from its origin and structure. It appears, he observes, to spring chiefly from the olivary body—a sort of ganglion; and, in its structure, it closely resembles the nerves of organic life, by the interlaced arrangement of its filaments, the presence of ganglia upon all its considerable branches, its repeated anastomotic communications, the occasionally augmented size of its parts, as in the trunk, in the ciliary nerves, in the external, nasal, and in the posterior palatine nerve, which establishes a similitude between it and the intercostal, and by its being uniformly accompanied by arteries—a remarkable proof of connexion with the functions of vitality. He might have added, that “it sinks into the middle cavity of the basis of the skull, in which all are vital parts.”

He justly argues that the influence of the fifth

pair over the following secretions, the lachrymal, that of the Meibomian glands, the mucous secretion of the pituitary membrane of the nostrils, the salivary secretion of the sublingual, maxillary, and parotid glands, the mucus of the muciparous follicles of the palate, mouth, cheeks, tongue, lips, and tonsils, and even the cerumen of the ears, as well as its supplying the maxillary, sphenoidal, and frontal sinuses, the teeth, the internal parts of the ear, the pharynx, and periosteum, shows that it performs only functions proper to vitality.

He reasonably maintains that its constant association with the minute arteries of the face regulates the circulation of that part of the body, and that all the changes which the colour of the cheeks undergoes in shame, rage, terror, indignation, horror, joy, hope, and desire, are to be attributed to the influence of the fifth pair over the facial capillary circulation,—a view which is far more reasonable than, and indeed utterly destructive of, the notion that all these are dependent on the facial nerve,—for the trifacial extensively supplies vital involuntary parts, and the actions in question are altogether of this character, while the facial is a voluntary nerve.

That the trifacial is a nerve of voluntary action is rendered equally evident when it exclusively supplies muscular parts. The motions of the uvula, velum palati, and upper division of the pharynx,

are entirely involuntary, and accomplished without effort or consciousness of the individual. Even when the trifacial nerves supply the parts about the organs of sense, Bellinghieri shows that the vital part of the properties of the organ depends on them; and the mental, on the proper nerves sent to the organs.

The iris, he observes, derives its nerves from the ophthalmic ganglion, which is formed by the trifacial in conjunction with the general oculo-muscular nerve. In some rare instances, he observes, the motion of the iris has been found to be dependent on the will; and in these, he shows that the ciliary nerves received no branches from the fifth. It is also, he states, known that in certain species of animals, as the parrot, owl, and the ray, the circumstance of the iris being under the will of the animal, is connected with the absence of the ophthalmic ganglion.

The involuntary motions of the internal ear, he, in like manner, attributes to the anatomical fact, that the chorda tympani comprises filaments of the lingual branch of the fifth pair extended over the cord, and to the associated fact, that the muscles of the stapes and malleus receive no branches from the seventh pair, until the latter has been formed by the petrous branch or vidian nerve of the fifth, after which it immediately distributes the appropriate filaments to the muscles specified.

As to the motions of the tongue, he observes that the various nervous sources from which it is supplied, are connected with the various functions assigned to it; also that the tongue performs a mixed class of motions which are sometimes voluntary, sometimes involuntary: the involuntary or instinctive motions being those exhibited in sucking, mastication, deglutition, and crying, in which the tongue assists, and which newly-born infants exercise instinctively. The lingual branch of the trifacial, he observes, contributes to the involuntary motions, since it sends filaments to the internal pterygoid, the stylo-pharyngeus, the stylo-glossus, the lingualis, and the genio-glossus, giving those muscles some degree of organic and involuntary character.

From all this Bellinghieri concludes that, though on the trifacial emerging upon the face, above and below the orbit, at the temples, in the region of the cheeks, and at the mental hole, its filaments are immediately conjoined with those of the facial by anastomoses so close as to constitute almost one nerve, yet so far as the trifacial itself is distributed to the muscles and integuments of the forehead, nose, lips, mouth, and face generally, it contributes only to involuntary or organic actions, and the voluntary motions depend on other nerves.

Suddenness of occurrence, and that without any previous warning, has been stated to be one of

the characteristics of the pain in tic-douloureux; this, however, is not always the case; sometimes the attack is ushered in by a kind of shivering, and a feeling of cold in the part. One phenomenon worth mentioning is that sleep appears to check the pain of tic-douloureux for the time being. This affection often assumes a periodical type; but even then the paroxysms are liable to variation in their return; for in all the forms of the disease the paroxysms may be induced by external influences often of the most trivial kind; a draught of cold air, sudden agitation, a slight touch of the part, or the motions of the face in the act of eating or speaking, may, any one of them, induce a return of the paroxysm. Tic-douloureux may be diagnosed from rheumatism by the suddenness with which the pain sets in, by its plunging, burning nature, by the longer or shorter intermissions, and by the complete absence of any constitutional symptoms. It may be distinguished from toothache by the way in which the paroxysms suddenly cease, leaving the patient free from pain, and by the pain following the track of the nerve, and keeping up a kind of superficial character.

The diagnosis in this class of diseases and rheumatism is, I think, almost self-evident. Neuralgia may be confounded with other affections seated in the nerves; the most important of these is undoubtedly *neuritis*. The distinctive marks generally

laid down between the two affections are the following:—In neuritis the seat of the pain is more fixed, the duration of the disease shorter, and the remissions less marked; the lancinating pain returns more gradually, there is more tendency to paralysis, and the pain is increased by pressure. M. Valleix believes that, with the single exception of the greater tendency to complete paralysis, all the other symptoms are common to the two affections; and in this he appears to be borne out by the history of a very interesting case, in which the sciatic nerve was injured during a severe labour, where the forceps were required to complete the delivery; but still he leaves the question very much in doubt. Unless all the observations recorded in his book be incorrect, pain on pressure is not a distinctive mark, since it equally exists in pure neuralgia; but he would suggest, that probably a further examination may show that in neuritis, the pain excited in this way may not be so remarkably circumscribed; it would seem more probable that the whole extent of the affected part of the nerve should present the same symptom. In this opinion we are confirmed by the observations of Professor Romberg, who remarks that, in the affection of which we are speaking, there is severe pain *along the whole course of a nerve*, which is increased by external pressure or motion. He adds, that, when the nerve is sub-

cutaneous it can be felt to be hard and enlarged, and that, as the disease advances, *anæsthesia* is gradually produced, while neuralgia, on the contrary, is characterized by the perfect uniformity of the symptoms throughout the entire course of the malady. When the disease is acute, the existence of fever will assist the diagnosis.

Neuralgia may also be confounded *with rheumatism*, but in general it can be readily distinguished by the greater extent of surface affected in the latter disease, and by the great increase of pain, caused by contractions of the muscles. In cases of acute articular rheumatism there can be no room for doubt.

The remedies employed for the cure of tic-douloureux have been generally considered as possessed of specific power; it is clear that this disease, when once established in the constitution, must be very much modified, independently of the cause exciting it in the first instance, by the condition of the constitution itself; this should certainly be borne in mind, as the choice of the remedies to be employed must be regulated by it. When seeking to treat tic-douloureux, we should first, if possible, find out the source of the disorder; this, as has been already stated, may be referable to some functional disturbance, to mechanical lesion of a nerve, or to some organic affection of the brain or spinal chord; if the pain be occasioned by functional disturbance in any

one of the viscera, or from mechanical lesion of a nerve, its cause may be investigated by careful inquiry, or may, indeed, be rendered obvious by an examination of the part in which the pain is felt. Should the cause seem to be of a constitutional origin, the nature of the disturbance must be ascertained, as far as can be done, and those remedies selected which may be considered as best suited to re-establish or to set right the state of the organs at fault; where, for instance, the *tic-douloureux* seems to be merely symptomatic of a deteriorated state of the digestive system, topical remedies could not be employed with any reasonable hope of a cure; in such a case instead of attending to the pain itself, the plan of treatment should be adapted with reference to the digestive system, and tonics, aperients with carbonate of soda and vegetable bitters should be administered.

Hydrocyanic acid may also be found serviceable; in some cases of severe neuralgia of the third division of the fifth pair of nerves attended with pyrosis, the oxide of bismuth was found to remove at one and the same time the affection of the stomach and the consequent neuralgic pain. In cases where *tic-douloureux* is combined with rheumatism, or where it occurs in persons of a gouty or rheumatic habit, the remedies which have been found serviceable in gout or rheumatism should be employed, and we may rest assured that in such cases col-

chicum or gum guaiacum will do good service. When the disease puts on the intermittent form, as it sometimes does, in consequence, I have no doubt, of the influence of malaria, quinine and arsenic are the remedies likely to prove most beneficial. In addition to this, however, such treatment should be employed as may serve to raise the tone of the constitution, depressed as it is by the peculiar action of the malaria. As the vital power is generally depressed in those attacked with tic-douloureux, and the nervous system more especially, the carbonate of iron is a very valuable remedy, first from its known power of augmenting the quantity of red blood, and from its admitted influence as a tonic on the nervous system; care, however, must be taken to attend to the state of the bowels, and, indeed, of the digestive system generally; it may be added, that the tongue should be perfectly cleansed by the judicious employment of aperients, before the administration of iron, or, indeed, of any tonic. In selecting a line of treatment to be employed in neuralgic cases, the state of the patient's system should be duly taken into account, as if he should be of a full plethoric habit, the antiphlogistic treatment should take precedence of the more specific; whilst, on the other hand, if the patient be of a delicate or weakly habit, measures calculated to improve the general health must be adopted in the first instance, such as change of air,

medicines to relieve any particular functional disturbance that may be present, and afterwards tonics.

When we have given a fair trial to all such remedies as we may think likely to remove the constitutional cause of the pain, and without success, topical means must be resorted to, to relieve the sufferings of the patient. Should the pain remain obstinate, notwithstanding the remedies employed, it has been recommended to divide the nerve itself between its origin and the part where the pain is felt; such an operation has removed the disease in a few instances. The cases are few, however, where the division of the nerve will be found of much service, excepting when it has been injured, or has suffered any local organic change, when it may be beneficial to sever it from its connexion with the nervous centres, and it is only reasonable then to expect that the suffering would be got rid of; but if the pain cannot be traced to any obvious cause, but seems to arise idiopathically from some peculiar state of the nervous system, local applications will sometimes be found serviceable in allaying it, such as preparations of belladonna, aconitine, opium, &c. Aconitine seems to possess most influence, and has often successfully removed the pain; it should be used in the form of ointment, one grain of aconitine to a drachm of cerate.

Mr. Pearson (*Medico-Chirurgical Transactions*)

says, that during the course of many years' practice, several cases of the local affection of a nerve or nerves, accompanied by muscular spasms, had occurred, and had often proved very intractable. He was at length induced to attempt the cure of these painful complaints by inflicting a disease which should extend over a large portion of the surface of the body, and which, after exciting a series of actions in the skin, should finally cause an extensive eruption, attended with the usual concomitants of certain exanthemata. For this purpose he recommends the following liniment to be rubbed twice or three times a day on part of the skin, until an eruption is produced—

Olei olivæ, fʒiiss.

— Terebinthinæ, fʒiss.

Acidi sulphurici, fʒj.

Misce.

He says, further; in one of these cases, where the arm and hand of a young lady had become nearly useless, and the symptoms had been combated by all the usual remedies in vain during twelve months, the patient was cured by the application of the liniment, which excited a considerable tumefaction of the whole arm, with a vesicular eruption. It was necessary in this case to produce the cutaneous disease three times, at intervals of about a week, and it never extended beyond the upper extremity.

This plan of treating disease is fully in accord-

ance with the views advocated in a previous chapter, in the remarks on the usefulness of counteraction. It matters not, as regards the principle itself, whether the counter-irritation be caused at a distance from the seat of the disease, as I have recommended, or immediately over it, as practised by Mr. Pearson; its mode of action is the same. I have myself met with excellent results in many cases of neuralgia induced by the rheumatic or arthritic diathesis, from a similar mode of exciting irritation in the skin, using however the acetate of colchicum in the form of extract, or else the wine, combined with other drugs, to constitute the embrocation. Colchicum, thus employed externally, will be found, sooner or later, according to the density of structure of the integuments, to excite a considerable degree of irritation, which may or may not, according to circumstances, be followed by a vesicular eruption. The principle of treatment adopted by Mr. Pearson and myself is identical, but I consider the employment of colchicum as more likely to be followed by beneficial results, on account of its peculiar specific action.

In the remarks that have been offered respecting neuralgia, exclusive reference has been made to that form of it which attacks the nerves of the face, as being the best type of the disease; any sensitive nerve however of the body may be thus affected, as the dorsal nerves; in which case the region of the

chest, the upper extremities, the mammae, or intercostal muscles, may be the seat of neuralgic pain. The disease being seated in the abdomen, pelvis, or lower extremity, the reference is to the lumbar nerves, &c.

It must not be forgotten that the great sympathetic nerve also may become implicated in these organic lesions of nerves. The observations already made will apply equally well to all the phases of neuralgia, and also with respect to the treatment of the disease.

RHEUMATIC NEURALGIA.

This is probably caused or modified by the rheumatic diathesis. Its characteristics were first pointed out by Dr. Elliotson, in a paper read before the Royal Medical and Chirurgical Society, and I believe the distinction he lays down to be most just and useful. It is far more common than the spasmodic variety, and differs from it in intensity as well as in its subjection to remedial agents. It may be inflammatory or not, acute or chronic, hot or cold, just as in ordinary rheumatism affecting other tissues.

The symptoms of rheumatic neuralgia are heat, pain, and tenderness of the surface, along the course of a particular nerve. The suffering is not of the character described in another place. There is generally, if not invariably, a *constant, dull, aching pain*, aggravated at intervals; but not the violent

thrilling, plunging agony, increased by the least shake of the patient or touch of the surface, as in the other variety. Rheumatism of the nerves is frequently periodical, the attacks coming on at certain times of the day and night. Sometimes a regular paroxysm is experienced about six in the evening, although more often the fits are irregular in their accession. Its origin may be traced to exposure to cold and wet, but it is liable to increase in severity from a variety of causes—external warmth, for example. Rheumatism in some other parts of the body is generally an attendant. This spurious or rheumatic neuralgia may thus be distinguished from genuine tic-douloureux by its *history*; by its *origin* in *cold* (although this is no great criterion); by the *difference* of the *pain*; and by there being more or less *heat* of the *surface*, with *rheumatism* of other parts. Another mode of distinction may be drawn from the effects of remedies, especially of those which have been already shown to exert a curative or palliative influence in general rheumatism.

This mode of diagnosis, it must be understood, is applicable only to that form of rheumatic neuralgia attended by heat of surface, and aggravated by the warmth of bed—the inflammatory kind. It does not apply to that which Dr. Elliotson considers the analogue to the *cold variety* of rheumatism—namely, having no heat of surface, and being re-

lieved by hot applications. This species, of the existence of which I have had no experience, would be extremely difficult to diagnose.

It must be confessed that the means of discrimination between the two kinds of neuralgia appear obscure by description. The distinction is more readily made in practice. I would suggest, moreover, as an additional means of distinguishing the two complaints, on which most probably the treatment will depend, that attention be paid to that which I am apt to consider the pathognomic sign of genuine neuralgia. I mean the spasmodic action of the muscles, or nervous twitchings of the skin over the part. These symptoms do not, I believe, attend the rheumatic variety.

Dr. Graves, however, observes:—

“I mentioned before, that we frequently observe flying pains or twitches, in various parts of the body, arising from a rheumatic or gouty cause; that in some instances these affections appear to be limited chiefly to the nervous trunks or branches, and that we have thus what may be termed gouty or rheumatic neuralgia. We are familiar with rheumatic or gouty sciatica, and we know that the history and termination of this form of disease often prove it to be inflammation of a specific character, chiefly confined to the trunk of the sciatic nerve. Now, it is not unreasonable to suppose that this specific inflammation of a nervous trunk or branch

may, like other inflammations, extend further, so as to involve parts of more importance to the economy."

This learned physician, when treating on gout, adds:—

"Gout is another disease which occasionally exhibits examples of its peculiar inflammation attacking various parts and tissues of the body, and that for an extremely short period of time. It is well known that persons of a gouty habit are subject to sudden pains or twitches, which last only for a few minutes, or even seconds. I shall not stop here to consider what may be the nature of these fugitive pains; I may observe, that certain facts seem to prove, that they are the result of a momentary congestion. Thus, in various neuralgic affections, and in inflammatory diseases, in which the nerves are considerably engaged, pain is suddenly produced by coughing. If a man labour under neuralgia of the frontal or facial nerves, or if he be affected with sciatica, how are his sufferings increased when he has unfortunately at the same time a cough! Every time he coughs, the affected nerve gives notice that it feels the congestion by a sudden pain. Now, the only way in which coughing can increase a local pain, is by favouring local congestion; that it is capable of doing this is proved by the redness of the face it occasions, as also by the hemorrhage from the nose or from recent wounds, which is so often produced by a fit of coughing."

It not unfrequently happens that neuralgia affects the extremities for years before the ear becomes the seat of mischief: the details of the following case, at present under my care, will serve to show that this opinion is not unfounded. A gentleman in the prime of life stated to me that he had suffered from neuralgia of the lower extremity, of an erratic character, for many years; he dated its origin from taking cold and getting wet whilst out on a shooting excursion of several days duration. The neuralgia did not extend beyond these parts for many years; but, after retiring to bed after having been suddenly taken ill, he arose in the morning quite deaf, and from that time he has never heard perfectly. Whether the cause here arises from the rheumatic poison in the constitution, or from the erratic nature of the neuralgia, I do not decide; but I incline to the former view, as the two diseases alternate with each other, according to the changes of weather.

Numerous cases may be met with of a troublesome pain in the ears, attributed to malaria, and which I have traced to that cause in many who have resided in the colonies, and particularly in Australia. The symptoms are well marked, commencing with pains first of a rheumatic character in the lumbar region, neck, and back part of the head, thence to the ears; here it appears to locate itself more particularly; the patient complains of imperfect hearing, a dryness in the meatus, and a very trouble-

some and incessant noise, and of all the objective symptoms of rheumatic inflammation; these symptoms are rarely present, unaccompanied by neuralgic pains attacking the face periodically. I have found in these cases also more or less uneasiness in the throat with enlargement of the tonsils. It is in vain to treat these cases by taking a superficial view of the affection of the ear only, or, indeed, to think much of that organ; the constitutional treatment must be adopted, and, so far as my experience extends, nothing will give a greater amount of permanent relief than a combination of quinine and colchicum; the latter may also be applied locally to the parts affected with great advantage. The periodical headache, or that better understood by the term intermittent, may be regarded as a very rife cause of these distressing noises, and is rarely otherwise present without neuralgic pains over the face.

With reference to influenza, Dr. Hunt observes, that from carefully attending to the history of numerous cases of *tic-douloureux*, and endeavouring to ascertain the cause of their occurrence, it has appeared to him that the diseases which have preceded the complaint, and to which it may be pretty correctly traced, have been, as has been already clearly stated more than once in the pages of this work, those of a class which either suddenly debilitate the body, as it were, by a peculiar poison,

or those which undermine the powers of the constitution by a slower but equally effective process. Of the former influenza is an example; one of the most characteristic features of that complaint being the early and sudden prostration of the vital powers, of which neuralgic pains are not the unfrequent consequence. Dr. Holland was the first, if not the only physician, who remarked the connexion. In his *Essay on the Influenza*, his allusion to it is so very clear, that I shall take advantage of it and insert it here: "Of the diseases consequent upon influenza, if not, indeed, to be regarded as an integral part of the malady, one of the most frequent and remarkable is the tendency to neuralgic intermittent pains and morbid actions in different parts of the body, with periods as regular as those of common ague, sometimes taking the tertian as well as the quotidian type; little connexion, save priority and sequence, can be traced between the early and more familiar symptoms of influenza and such partial and intermittent affections, whether they depend on idiosyncrasy of the patient, or on some peculiar application of the virus, or simply a liability given to be affected in this way, are points equally obscure. I know no other disease which possesses the power of producing neuralgic pains so suddenly as influenza."

The seat of this complaint is usually in one temple, both being rarely attacked at once, although,

after frequent relapses, the disease sometimes attacks the temple opposite to that first affected. The type it usually assumes is the quotidian, more rarely the double quotidian or tertian; but for some time before it takes the form of a regular intermittent, the headache in some cases is diffused, and comes on and goes off at uncertain times; at length it returns with more severity at particular hours, and then gradually assumes the intermittent type, thus rendering the diagnosis difficult before the periodic character is developed.

When it is fully formed, the paroxysm commences with uneasiness in the temple, rather than pain, which increases in severity during one or two hours, until it arrives at its height; the pain then becomes excruciating, and continues very violent for an hour or more, after which it gradually subsides, leaving the individual perfectly easy during the interval.

The paroxysm is sometimes preceded by a general feeling of chilliness and discomfort, or only by a local coldness.

During the paroxysm, there is increased heat and excitement in the vessels of the part, and also much general heat, but not more than may be expected from the violence of the pain. The seat of the pain is usually circumscribed, at least at the point of its greatest intensity; from which it diverges in all directions, in a more moderate

degree. The pain sometimes includes one eye, which, during the paroxysm, becomes intolerant of light, and vision remains for a time dim and weak.

This form of neuralgia often arises from malaria, respecting which it is a singular, but frequently occurring fact, that if two persons are exposed to its influence at the same time, one will be attacked with ague, the other with intermittent headache; a plain proof of the close relationship between these two diseases.

It also comes on apparently from no other cause than mere debility, particularly in persons who have previously suffered much from it. It sometimes occurs in the early months of pregnancy. It is a frequent consequence of over-nursing, or of anxiety of mind; indeed any cause of exhaustion or debility in weak and irritable habits will produce it. It also attacks the strong and robust, without any apparent cause, and is often the effect of organic disease in the brain; but in the latter case other symptoms arise in succession, by which the true nature of the disease is developed, as has been already demonstrated.

Amongst the curious phenomena attendant on this disease, is the tendency to return regularly at the same period, whether that be of weeks, months, or years, as is shown by the following cases:—

“Mrs. J——, for several years had a regular attack, sometimes in one temple and some-

times in the other, always occurring in the month of August. Another good example of this occurred in 1826: C. S——, in April 1826, was attacked with brow ague, while living in the woods in Newfoundland; after several months of severe suffering, he returned to England for advice, when it soon yielded to arsenic, given after the administration of an emetic, and of some brisk cathartics. In the Aprils of the two succeeding years, he had regular attacks of the same complaint, which were, however, soon cured. It then occurred to me to try the effect of the medicine which had hitherto removed the attack, by administering it a short time before the periodical return, by which I hoped to anticipate the annual attack, and so prevent its return. Under this impression, I gave him, in the following year, an emetic and some calomel purges, and then commenced the arsenic, a fortnight before the expected period of attack, by which time he had experienced admonitory sensations. This plan succeeded; and, being repeated the following year, prevented any return of the complaint.

“After a person has suffered severely from brow-ague, he becomes so liable to an attack, that any exciting cause, which would have had no influence on an individual in sound health, will often provoke it. This form of neuralgia is usually easily cured, particularly if the case be recent. It is advisable to commence the treatment by a thorough evacua-

tion of the stomach and bowels. This, indeed, is not always necessary; but, in the majority of cases, the cure will be much accelerated by such a practice. The practice of giving emetics is not very general at present, but was commonly followed by the profession in the last generation; more especially in the districts where this disease prevailed. Some cases, indeed, will resist every remedy until this plan has been adopted. It is very valuable also in cases in which the pain, although diffused, is evidently of a nervous character, for it often decides the case by accelerating the appearance of the periodic type.

“In the case of Mrs. J——, already mentioned, the necessity for this previous evacuation was clearly shown, for quinine and arsenic singly, bark and arsenic combined, frequently failed to afford relief, until after an emetic had been given; when either of those remedies quickly and certainly succeeded.

“After this evacuation, quinine or arsenic should be given, until the pain is subdued, and for some days afterwards.

“From the testimony of many physicians, it would appear that large doses of quinine, given at long intervals, have more effect in controlling and overcoming brow ague than small doses frequently repeated. Dr. Blackall has lately related his own case, where the usual doses having completely failed, he was induced to take twenty grains of quinine for

a dose twice a day; the first dose was taken one hour before the expected paroxysm, and he never afterwards experienced a return of the pain.

“The Portuguese plan of curing this disease and ague is somewhat similar. They order an ounce of powdered bark and an ounce of black pepper to be made into an electuary, with the syrup of white poppies. The patient is to commence taking it early in the morning, and to take the whole by teaspoonsful before the attack comes on; after which, they give large quantities of beef tea. If the case be recent, it is usually cured in one day.

“In the generality of cases, doses of one or two grains of quinine, three times a day, or every six hours, will afford relief; and as unpleasant effects sometimes follow large doses of this medicine, it is better to be content with smaller doses, although it may require a longer time to effect a cure, than to run any unnecessary risk.

“Where arsenic is employed it is proper to commence with a small quantity, and to increase the dose daily (within certain limits), until the pain be subdued, which will seldom be the case until some of its effects on the stomach have been felt. The pain will then be found almost invariably to subside.

“The same medicine must be continued for two or three days after the pain has ceased, and repeated for a few days, at the expiration of a week, other-

wise the pain is very apt to return about the tenth day after the medicine has been discontinued. If this should be the case the same plan of treatment must be resorted to.

“A lapse of this nature has so often occurred, that I always caution my patient against it both for my own sake and for his benefit. The advantage to me of this caution, and the ill consequence to the patient of neglecting it, are shown by the following case :

“Mrs. E—— consulted me in September, 1831. She was suffering from very severe brow ague, but was quite relieved by arsenic in ten days; so completely that she disregarded my warning, and would not take her medicine again as I had advised. At the end of a fortnight she again came to me suffering as acutely as ever, and told me that the pain had returned, as I had predicted, on the tenth day, and but for my warning she would have consulted some other person from my apparent want of success. A paroxysm of brow ague, as well as of common ague, may be interrupted by an emetic given a short time prior to the expected return of the paroxysm, but no further benefit appears to be derived from it than an exemption on that day from the pain, which on the following day will return with equal violence.

“Sometimes the pain is moderated by local applications, such as opiate or belladonna plaster, or by

friction with the aconitine ointment. In one case, which was under the care of a friend, an empirical remedy succeeded, after many others had failed—Le Fay's pommade.

“A combination of capsicum, or black pepper, with quinine or arsenic, will sometimes cure more quickly than either of those remedies used separately.

“In some obstinate cases arsenic in substance has been known to succeed when the solution has failed. It has done so in my practice, but the great objection to arsenic given in that form, is the possibility that it may not be accurately divided. I have, however, known it frequently given by a gentleman during the last twenty years without inconvenience, or any unpleasant symptom arising from it.

“The improvement in the general health, by a change of air, from the comparative impure atmosphere of a city to the clear and open air of the country, is well known, and when the complaint has been severe, or of long standing, this change should be recommended; if not during the medical treatment of the complaint, at least as soon as it has been cured.”*

* Dr. Hunt on *Neuralgia*.

NEURALGIA — THE FIFTH AND SEVENTH PAIRS OF
NERVES—THEIR SUBORDINATE DIVISIONS.

We now arrive at a question of no little physiological interest. *Can the portio dura of the seventh pair ever be affected with neuralgia?* Considering the functions of this nerve, one might be readily induced to answer at once in the negative; but, as M. Valleix well remarks, it does not necessarily follow that, because it is physiologically insensible, it must continue so when affected with disease; I shall, therefore, give a short abstract of the opinions entertained by various writers. In doing this, however, I shall not enter into the discussion, whether the marks of ordinary sensibility exhibited by some portions of the nerve are, or are not, due to its intimate connexion with the ramifications of the fifth pair, for there are few, I apprehend, in this country at least, who have any doubt whatever upon the subject. The majority of the descriptions of this supposed affection, says M. Valleix, of the portio dura are sufficiently vague; some observers inform us that the pain extends along the course of the nerve, commencing at its point of emergence; others merely affirm that it *appears* to follow this course; while others again are contented with saying that they have seen cases of neuralgia of the facial nerve! What

confidence, he adds, can be rationally placed on such loose and uncircumstantial evidence? M. Reverdit, however, goes much further than any others, for he recognises three varieties of this affection. In the first of these, the pain commences towards the back of the auricle, extends to the temple, the cheeks, the nose and the lips, and *appears more superficial than in cases of trifacial neuralgia*; in the second, the pain passes in one direction towards the chin and neck, and in the other stretches from the auricle to the shoulder; in the third, it extends to the mastoid region and occipital bone. Now, with reference to these assertions, there is an observation which will naturally strike the reader, namely, that as the extremities of the facial nerve and the fifth pair occupy the same localities, it does not follow that pain seated in the temple, cheek, chin, &c., must of necessity be referred to the former. As to the pain in this affection being more superficial, any one who has paid the least attention to the descriptions of their ailments given by patients, will know at once how much value there is in this declaration. The only statement, therefore, of any real importance is that which refers to the point where the pain commences; but the difficulty will be greatly removed even in this case, if we recollect that a large nerve, the posterior branch of the second cervical, passes close by this point to

ramify on the scalp, where its branches anastomose with divisions of the fifth pair. M. Bérard, the elder, relates a case of a young man with disease of the cervical vertebræ, who suffered from intolerable pain in the back of the head, and after death a reddish gangliform tumour was found at the origin of this nerve, which had evidently been the cause of his sufferings. Several cases are also quoted by our author, in which the pains commenced precisely in the situation of this posterior branch, and then radiated to different parts of the face. M. Valleix remarks that in many of the instances of this kind which he has observed, (and which he includes under the term *cervico-occipital neuralgia*,) the patients invariably informed him that at first the pain commenced behind the ear, and passed thence to the face; but a more close investigation, especially by means of pressure, convinced him,—1. That the point of origin was not immediately behind the ear, but between the mastoid process and the vertebral column; 2. That the lancinating pains passed from that spot upon the occipital bone, and reappeared at the parietal protuberance; and 3. That in this place there was a painful point, from which they radiated to different parts of the face, and gave rise to all the ordinary symptoms of *tic-douloureux*.

With respect to neuralgia of the facial nerve, or the *portio dura* of the auditory, it is a disease which

when chronic cannot be distinguished from other species of *tic-douloureux*. The pains, at an early period, are no longer confined to the passage of the principal branches of this nerve between the parotid gland and ramus of the jaw; and its numerous communications with the rest of the nerves of the face seem to facilitate the extension of the disorder, so that the agony is soon felt over the whole face. The original source of the affection can be detected only by attentively considering the progress of the complaint in all its stages.*

It is difficult to decide on the nature of the alteration of structure, whether to consider it a pure neuralgic affection, or as a peripheric disorder, beginning with rheumatic effusion into the cellular tissue, which then acts as an impediment to the motion of the muscles, and of the function of the nerve which passes through the diseased structure. I have observed that this induration of the cellular tissue is not only invariably present in facial palsy, but that it bears an exact relation to the degree of the paralysis.

Few opportunities have as yet occurred of ascertaining the exact condition of the nerve in this class of interesting cases of local paralysis so beautifully described by Bell and Shaw, but in so far as the causes of rheumatism are concerned, I have traced

* Delpech, *Traité des Maladies réputées Chirurgicales*, t. iii. sect. vi. p. 214.

it to arise in them, in by far the more numerous class of cases; and if treated as arising from rheumatism, it will generally be removed. Dr. Abercrombie, in speaking of this pathological change of structure in the nerves, states, that the only case in which he had an opportunity of examining the parts, since he was acquainted with the discoveries made by Sir C. Bell, was, in a woman about forty years of age, who died of organic disease of the stomach. About a fortnight before her death she was seized with twisting of the mouth and paralysis of the orbicularis of the left eye. She had afterwards considerable indistinctness of speech, and, before her death, there was an inflammation of the left eye, with an evident tendency to sloughing of the cornea. A small hard tumour was felt under the ear, deeply seated between the angle of the jaw and the mastoid process. On dissection no disease could be discovered in the brain. The tumour under the ear was found to be the size of a small bean, very firm, and of an ash-colour; when cut across, it discharged a thin, puriform, sanious fluid from minute cells in its substance; it lay directly above the facial branch of the portio dura; and there was considerable appearance of inflammation in the cellular structure surrounding the nerve; but he could not discover any deviation from the healthy structure in the nerve itself. He thought it was diminished in size at the place where the tumour lay

over it, but in this, he says, he might be mistaken. In a case by Descot, connected with extensive suppuration and caries of the auditory portion of the temporal bone, a part of the portio dura was entirely destroyed; and in another case by Billard, connected with an unhealthy abscess of the parotid gland, the course of several of the nervous branches was interrupted by destruction of part of their substance. An epileptic patient, mentioned by Serres, had inflammation followed by opacity of the right eye, loss of feeling in the conjunctiva, and insensibility of the right nostril and right side of the tongue. He died of an affection of the brain; and, on inspection, the fifth pair of nerves, at its origin, was found yellow, and softened, and reduced to a state almost gelatinous.

The following case, published by Mr. Pritchard of Bristol, has considerable interest; it is an instance of paralysis of the *portiones dura et mollis*:—

William Rogers was under his care three years ago, having the left side of the face drawn up, contracted, and wrinkled. He said it felt as if the skin were not large enough. The lids were much corrugated, and the *orbicularis palpebrarum* was evidently continually acting. He has no strabismus when the eye is opened; its movements are perfect, but the sight is a little dim. He is deaf in the ear of that side. He was blistered behind the ear, and was well purged. The hearing returned soon

after the application of the blister. After pursuing this plan of treatment for a time with some slight improvement, he was given turpentine to take internally, in drachm doses, twice a day. Under the effects of this remedy he speedily improved, and about six weeks after his admission the twitching had entirely ceased, and his hearing was perfect; he felt a little giddy, but was otherwise quite well.

This case is a good example of a spasmodic affection of the portio dura of the seventh nerve, accompanied with paralysis of the portio mollis of an equally temporary character. Such cases as these are not of common occurrence. The treatment was followed by a very favourable result, because the patient came under professional care early in the progress of the disorder.

According to the experience which I have had of cases of this nature, the order of frequency with which paralysis affects the nerves I have been alluding to, is the following. The third is most frequently affected, then the seventh, after these the sixth and ninth. The fifth and eighth are very seldom paralysed, and are, in fact, from their deep-seated position, out of the way of cold and other accidental causes. The anatomical relations of the third, sixth, and seventh appear to me to explain the frequency of their paralysis. The two former, as is well known, enter the orbit from the cavernous sinus through the same aperture (the sphenoidal fissure)

as that through which the ophthalmic veins carry back into the same sinus, the blood from the eye and its surrounding tissues. Any cause, therefore, which can produce fulness of the head, or any impediment to the return of venous blood from the brain, or from the orbit, will cause congestion in the orbit, and is likely also to induce pressure on the third and sixth pairs of nerves. This idea is strengthened by the result of the treatment; for if leeches and blisters be applied to the brow and temple in these cases, the patients will generally recover, if seen tolerably early after the onset of disease. I believe that neuralgic headache, or pain in the course of the supra-orbital nerve, is frequently induced in an exactly similar manner.

With regard to the seventh nerve, it has to travel through a narrow and tortuous bony canal, ending at the stylo-mastoid opening, in company with a little artery which enters at the point where the nerve leaves the cranium. Here again, any increased vascularity, or any cause (as cold) producing rheumatic or other inflammation of the fibrous sheath of the nerve, gives rise to swelling; and, in consequence, to firm pressure upon the trunk of the nerve, and to subsequent paralysis. Here again, treatment by leeching and blistering freely behind the ear, will generally cure the disease.

This case, with others constantly coming under

observation, strongly illustrates that the trifacial nerve is a vital or organic nerve. When we consider the trifacial nerve in all its endowments, we can with less difficulty account for these fixed neuralgic pains.

NEURALGIA, AS CONNECTED WITH RENAL DISEASE.

I have long been familiar with attacks of neuralgia of the face, accompanied with tinnitus in one or both ears, which, on investigation, are found to be connected with disease of the kidney. The following case of a medical gentleman's wife will fully explain my views on this head, and caution us to take a full history of the case ere we commence the treatment; the cause being obviously at some distance from the aural disease, and the symptoms equally remote.

Mrs. E., about 40 years of age, was seized with pain in the head and ear of the right side, accompanied with a distressing buzzing of a most annoying character; the pain shifted at times from the head to the jaw of the same side, and thence to the throat, causing difficulty of swallowing, and sometimes thickening in her speech. With the view of relieving the pain in the ear and the noises, which were supposed to arise from some altered condition of the structure, she was advised prior to my seeing her, to have many strong and powerful remedies

applied to the meatus, and they were doubtless the cause of a purulent discharge from the membrane and of partial deafness. This treatment had been carried on for some months without in the least degree mitigating the pain or checking the noises. A severe attack of rheumatism seized her in the shoulder of each side, associated with pain in the chest and some difficulty of breathing. It was now observed that the urine was diminished in quantity, and when that was the case, the paroxysms of neuralgia in the face were greatly aggravated. A course of treatment, directed with the intention of bringing into healthy action the secreting organs, perfectly restored the patient, who had been suffering from disease quite remote from the apparent seat of annoyance, and one which is most likely to be overlooked unless careful investigation has been made. I have found these cases, which are of rare occurrence, to be much aggravated by a residence in damp localities; the case just detailed exemplified this fact. While residing in London my patient continued convalescent, but on her return to her own residence all the symptoms of her nephritic affection relapsed with all their former violence, together with the neuralgia of the face.

Dr. Christison observes, in that very frequent and formidable affection, now so well known to practical physicians,—the granular disease of the kidney, or

Bright's disease,—that the functions of the skin are among the first that are deranged. The office of this organ, as a great emunctory to the body, is completely in abeyance, and in its early stages the disease may be checked or greatly alleviated by the restoration of the cutaneous secreting action; but when the disease is completely established, a vast number of secondary affections show themselves in situations remote from the kidney, indicating that the morbid agent must be extensively disseminated throughout the body. Among these, what has been called chronic rheumatism, has been especially noticed. Dr. Christison considers it among the most frequent of the secondary affections. He says,—“On investigating the early history of many cases which have first come under my notice in the advanced stage, my attention has been drawn to the frequency with which reference was made to rheumatic pains, as one of the previous symptoms; repeated instances of the same complication have occurred after the admission of patients into the infirmary; and, in short, this connexion has appeared to me so far common, that I never meet with cases of obstinate chronic rheumatism without being led to make inquiry into the state of the urinary secretion. The form in which it commonly appears is that of mere neuralgia, without swelling or redness of the affected parts, and seated in the muscles more frequently than in the joints.

That a change is progressing in the structures during the severe paroxysms of neuralgia, and probably in the nervous tissue itself, may be suspected from what occurs in the analogous organ, the eye. I was much interested in reading in the *American Journal of the Medical Sciences* for September, 1851, a series of cases of amaurosis, associated with granular disease of the kidney; in one case, well marked symptoms of tic-douloureux were observed, and were relieved only by attention to this altered state of the kidney. The patient, after the cessation of the paroxysm, passes a quantity of albuminous urine, holding the phosphates in solution. The cases detailed in the *American Journal* are highly interesting, and strongly point out the necessity for obtaining a careful history of the previous details of a case ere we commence our treatment.

SYMPATHETIC HEADACHE.

Cephalalgia, or headache, is produced by a variety of causes, and assumes various shapes. It is, therefore, of the first importance to distinguish the pathological conditions on which it depends. The following classification of headaches has been adopted by authors: 1, The congestive, from congestion occasioned by increased or diminished vital action of the heart and blood-vessels; 2, The inflammatory, from inflammation of the membranes

or substance of the brain; 3, The sympathetic, from disorder of the digestive, biliary, uterine, urinary, and other organs; 4, The organic, from structural change of the bones of the cranium, the membranes, or the substance of the brain; 5, The neuralgic, from affection of the nerves distributed to the integuments; 6, The metastatic, from metastasis of disorders; 7, The intermittent, occurring at stated periods. The last may embrace the sympathetic, neuralgic, and metastatic varieties.

For our present purpose it will suffice to notice those only which depend upon sympathy with other organs. If the stomach be deranged, and nausea or vomiting be the prominent symptom, it has received the name of "sick headache." If the liver or biliary apparatus be affected, it is denominated "bilious headache." If it accompany indigestion, it is known by the term "dyspeptic headache."

Sympathetic headache depends upon derangement of the stomach, liver, or alimentary canal, and arises from direct morbid irritation of the nerves supplying these respective parts. It may be distinguished by the foul state of the tongue, and the improper performance of the digestive functions. The pain is often diffused over the whole head; but it is sometimes circumscribed, and confined to the forehead or one temple. It is either dull, heavy, and oppressive, or acute, sharp and lancinating, and is usually perceived in the morning when the patient

wakes. Nausea is present, and vomiting sometimes occurs, when the remains of an undigested meal or ingesta mixed with bile are discharged.

The symptoms are mitigated or entirely disappear for a time after the vomiting; but they return and run a similar course, frequently for many days, or until the diet has been properly regulated, and purgatives have been taken. Sometimes the headache arises after a full meal; in these cases the pulse is generally low and weak, the tongue furred, and the bowels costive. The treatment of sympathetic headache is aided by all the means adapted for the removal of the accompanying dyspepsia—such as light diet, and regular exercise in the open air, aperients, and such measures as promote the regularity and normal condition of the secretions.

In derangement of the biliary functions, in addition to the general treatment, it will be necessary to combine with the purgatives such medicines as are supposed to exert a specific action upon the liver. These are preparations of mercury, and of colchicum, and the muriate of manganese. Local bleeding is sometimes indicated if pain, increased by pressure, exist in the neighbourhood of that viscus, and is associated with a strong, rapid, or oppressed pulse.

In allusion to this part of the subject, we may just mention hemicrania (or megrim), which is simply headache, confined to one side, occupying generally

the brow and forehead, but sometimes affecting very exactly one moiety of the head. It is often accompanied with noises in the ears, and frequently with considerable pain and other well-marked symptoms of *tic-douloureux*. It is also often attended with sickness, and in most instances it occurs periodically, coming on every day at a certain hour, lasting a certain time, and then subsiding; like the other forms of neuralgia, *hemicrania* may be produced by various causes, which are, however, almost all of them such as tend to debilitate the system; it sometimes occurs in connexion with *hysteria*, sometimes it acknowledges the same cause as *ague*; and sometimes, also, it occurs altogether independently of other diseases, and when no obvious exciting cause can be traced. Whatever may be its origin it is usually a very manageable complaint. When it is associated with evident *anemia*, steel, or mineral tonics and the shower bath may be expected to cure it, after the secretions have been duly corrected. When its visits are strictly periodical, it will yield to quinine and preparations of that class, the obvious effect of which is to improve the constitutional powers.

LONDON :
SAVILL AND EDWARDS, PRINTERS, CHANDOS STREET,
COVENT GARDEN.

